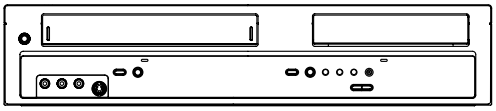
SHARP SERVICE MANUAL

S55J9DV-RW260



DVD-RW RECORDER &
VHS VIDEO CASSETTE RECORDER

MODEL DV-RW260S

In the interests of user-safety (Required safety regulations in some countries) the set should be restored to its original condition and only parts identical to those specified be used.

· The region number for this recorder is **2**

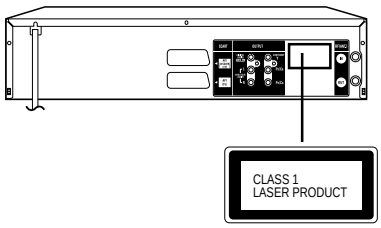
CONTENTS

SHARP CORPORATION

IMPORTANT WARNING

CAUTION:
DVD PLAYER IS A CLASS 1 LASER PRODUCT. HOWEVER THIS PLAYER USES A VISIBLE LASER BEAM WHICH COULD CAUSE HAZARDOUS RADIATION EXPOSURE IF DIRECTED. BE SURE TO OPERATE THE PLAYER CORRECTLY AS INSTRUCTED.

THE FOLLOWING CAUTION LABEL IS LOCATED ON THE REAR PANEL OF THE PLAYER.



(Printed on the Rear Panel)

WHEN THIS PLAYER IS PLUGGED TO THE WALL OUTLET, DO NOT PLACE YOUR EYES CLOSE TO THE OPENING OF THE DISC TRAY AND OTHER OPENINGS TO LOOK INTO THE INSIDE OF THIS PLAYER.

USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.

DO NOT OPEN COVERS AND DO NOT REPAIR YOURSELF. REFER SERVICING TO QUALIFIED PERSONNEL.

SERVICING NOTICES ON CHECKING

1. KEEP THE NOTICES

As for the places which need special attentions, they are indicated with the labels or seals on the cabinet, chassis and parts. Make sure to keep the indications and notices in the operation manual.

2. USE THE DESIGNATED PARTS

The parts in this equipment have the specific characters of incombustibility and withstand voltage for safety. Therefore, the part which is replaced should be used the part which has the same character.
Especially as to the important parts for safety which is indicated in the circuit diagram or the table of parts as a ⚠ mark, the designated parts must be used.

3. PUT PARTS AND WIRES IN THE ORIGINAL POSITION AFTER ASSEMBLING OR WIRING

There are parts which use the insulation material such as a tube or tape for safety, or which are assembled in the condition that these do not contact with the printed board. The inside wiring is designed not to get closer to the pyrogenic parts and high voltage parts. Therefore, put these parts in the original positions.

4. PERFORM A SAFETY CHECK AFTER SERVICING

Confirm that the screws, parts and wiring which were removed in order to service are put in the original positions, or whether there are the portions which are deteriorated around the serviced places serviced or not. Check the insulation between the antenna terminal or external metal and the AC cord plug blades. And be sure the safety of that.

HOW TO ORDER PARTS

Please include the following informations when you order parts. (Particularly the VERSION LETTER.)
1. MODEL NUMBER and VERSION LETTER
   The MODEL NUMBER can be found on the back of each product and the VERSION LETTER can be found at the end of the SERIAL NUMBER.
2. PART NO. and DESCRIPTION
   You can find it in your SERVICE MANUAL.

DISC REMOVAL METHOD AT NO POWER SUPPLY

1. Insert a fine rod (wire etc.) into the hole of the Front Cabinet as shown by the arrow. **(Refer to Fig. 1)** The Tray is opened.
2. Draw the Tray.

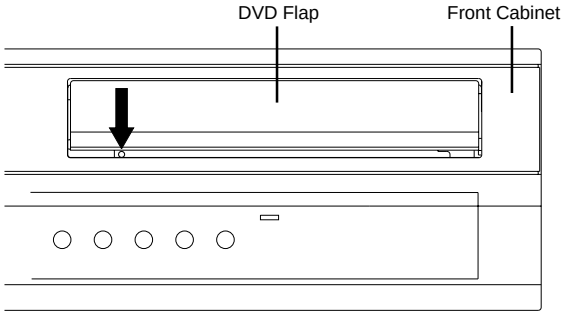


Fig. 1

TAPE REMOVAL METHOD AT NO POWER SUPPLY

1. Remove the Top Cabinet, Front Cabinet and DVD Block. **(Refer to item 1 of the DISASSEMBLY INSTRUCTIONS.)**
2. Remove one screw of the Loading Motor from the insert hole for screw driver and remove the Loading Motor.
3. Rotate the Pinch Roller Cam in the direction of the arrow by hand to slacken the Video Tape. **(Refer to Fig. 2)**
4. Rotate the Clutch Ass'y either of the derections to wind the Video Tape in the Cassette Case.
5. Repeat the above step 3~4. Then take out the Video Cassette from the Deck Chassis. Be careful not to scratch on the tape.

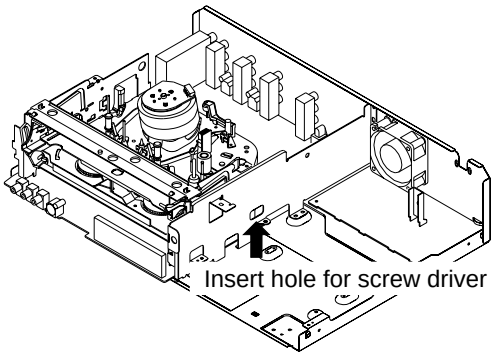


Fig. 1

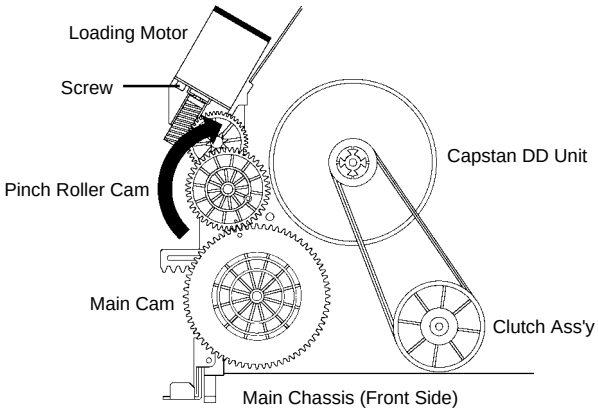


Fig. 2

PARENTAL CONTROL - RATING LEVEL

4 DIGIT PASSWORD CANCELLATION

If the stored 4 digit password in the Rating Level menu needs to be cancelled, please follow the steps below.

1. Turn Unit ON.
2. Press and hold the '7' key on the remote control unit.
3. Simultaneously press and hold the 'STOP' key on the front panel.
4. Hold both keys for more than 2 seconds.
5. The On Screen Display message 'PASSWORD UNLOCK' will appear.
6. The 4 digit password has now been cleared

NB: No indications on the screen when the Parental Lock is setting.

TRAY LOCK

Tray cannot be opened by setting the Tray Lock, please follow the steps below.

1. Turn Unit ON.
2. Press and hold the '0' key on the remote control unit.
3. Simultaneously press and hold the 'STOP' key on the front panel.
4. Hold both keys for more than 2 seconds.
5. Press the OPEN/CLOSE key on the front panel to check the Tray Lock setting.

NB: No indications on the screen when the Tray Lock is setting.

To unlock the Tray Lock, please follow the steps below.

1. Turn Unit ON.
2. Press and hold the '0' key on the remote control unit.
3. Simultaneously press and hold the 'STOP' key on the front panel.
4. Hold both keys for more than 2 seconds.
5. The Tray Lock has now been cleared.
6. Turn Unit OFF.

NB: No indications on the screen when the Tray Lock is setting.

GENERAL SPECIFICATIONS

G-1	**Outline of the product**				DVD-R/-RW Video Recorder & VHS Player/Recorder
G-2	**DVD System**	Color System			PAL
		Disc Format	Rec		DVD-R(Ver.2.0/4x/8x)
					DVD-RW (Ver.1.0, Ver.1.1, Ver.1.1 CPRM support, Ver.1.2 CPRM support)
			Play		DVD-R/-RW, DVD-Video, CD-DA, CD-R/-RW, Video CD, SVCD
					DVD-RW (Ver.1.0, Ver.1.1, Ver.1.1 CPRM support, Ver.1.2 CPRM support)
					DVD-Video, CD-DA, CD-R/-RW, Video CD, SVCD
		Disc Diameter			120 mm 80 mm (Self Recording/Playback Only)
		Deck			DVR-R09OR
		Rec Time (Aprox.)		XP	1 hour
		at 4.7GB Disc		SP	2 hour
				LP	4 hour
				SLP	6 hour
		Search speed			Fwd 4 step
				Actual	2-45 times (DVD,Video CD) 4-40 times (CD)
					Rev 4 step
				Actual	2-45 times (DVD,Video CD) 4-40 times (CD)
		Slow speed			Fwd 1/8-1/2 times
				Actual	--
					Rev --
				Actual	--
G-3	**VCR System**	System			VHS Player / Recorder
		Video System			PAL
		Hi-Fi STEREO			Yes
		NTSC PB(PAL60Hz)			Yes
		Deck			OVD-7S
		Heads	Video Head		4Head
			FM Audio Head		2Head
			Audio / Control		Mono / Yes
			Erase (Full Track Erase)		Yes
			Erase (Normal Audio Track Erase)		Yes
		Tape Speed	Rec	PAL	SP/LP
				NTSC	-
			Play	PAL	SP/LP
				NTSC	SP
		Fast Forward / Rewind Time (Approx.) at 25oC			FF:1'12" / REW:1'12"
				with Cassette	E-180
		Forward/Reverse Picture Search	NTSC or PAL-M		SP/LP = 3x,5x
			PAL or SECAM		SP/LP=5x,7x / 7x, 13x
		Frame Advance			Yes
		Slow Speed			1/5, 1/10, 1/30
G-4	**Tuning System**	Broadcasting System			CCIR B/G, OIRT D/K
		Tuner and Receive CH		System	1Tuner
				Destination	Oscar (w/HYPER)
				CH Coverage	E2~E4, X~Z+2,S1~S10,E5~E12,S11~S41,E21~E69
		Intermediate Frequency		Picture (FP)	38.9 MHz
				Sound (FS)	33.4 / 32.4 MHz
				FP-FS	5.5 / 6.5 MHz
		Auto Tuning Method			ALL BAND (Not Only C.C.I.R.)
		Auto Guide Ch Area			--
		Preset CH			80CH
		RF Converter Output			No
			Channel		-
			Level/Impedance		-
			Sound Selector		No
		Stereo/Dual TV Sound			G.ST/NICAM DUAL
		Tuner Sound Muting			Yes
G-5	**Power**	Power Source		AC	230V 50Hz
				DC	-
		Power Consumption			31 W at 230V 50Hz
				Stand by (FIP Off)	5.5 W at 230V 50Hz
				Stand by (FIP On)	6 W at 230V 50Hz
				Per Year	-- W
		Protector		Power Fuse	Yes
				Safety Circuit	Yes
				IC Protector(Micro Fuse)	No

GENERAL SPECIFICATIONS

G-6	**Regulation**		Safety	CE, SEMKO
			Radiation	CE, SEMKO
			Laser	-
G-7	**Temperature**		Operation	5oC - 35oC
			Storage	-20oC - 60oC
G-8	**Operating Humidity**			Less than 80% RH
G-9	**Signal**	Video Signal	Output Level	1 V p-p / 75 ohm (DVD, VCR)
			S/N Ratio (Weighted)	65 dB (DVD-Video) 53 dB (VCR)
			Horizontal Resolution	500 Lines (DVD-Video) 240 Lines (VCR)
		RGB Signal	Output Level	0.7V p-p/75 ohm
		Audio Signal	Input Level Microphone	--
			Input Level Line	-3.8 dBm / 50k ohm (VCR, 0dBm=0.775Vrms)
			Output Level Line	-3.8 dBm / 1k ohm (VCR, 0dBm=0.775Vrms) -12dB / 1k ohm (DVD, -20dBFs 0dBFs=2.0Vrms)
			Digital Output Level	0.5 V p-p / 75 ohm (DVD)
			S/N Ratio at (Weighted)	90dB (DVD-Video), 42dB (VCR at SP)
			Harmonic Distortion (1KHz) Typical	0.06% (DVD-Video), 1.5% (VCR at SP)
			Frequency Response : DVD Mode at DVD	4 Hz - 22 kHz
			DVD Mode at VideoCD/SVCD	4 Hz - 20 kHz
			DVD Mode at CD	4 Hz - 20 kHz
			VCR Mode at SP	100 Hz - 10 kHz
			VCR Mode at LP	100 Hz - 5 kHz
			VCR Mode at SLP	--
		Hi-Fi Audio Signal	Dynamic Range : More than	75dB
			Frequency Response	20Hz ~20kHz
			Wow And Flutter : Less than	0.01 %Wrms
			Channel Separation : More than	60 dB
			Harmonic Distortion : Less than	1%

GENERAL SPECIFICATIONS

G-10	On Screen Display (DVD)	Menu				Yes	
			Menu Type			Character	
		Setup	Timer Rec Set			Yes	
			System Setup			Yes	
				Language		Yes	
					OSD Language	Yes	
					DVD Menu	Yes	
					Audio	Yes	
					Subtitle	Yes	
				Parental		Yes	
					Password Lock/Unlock	Yes	
					Rating Level	Yes	
				Clock		Yes	
					Clock Set	Yes	
					Auto Clock(Auto Time)		No
				Disc Setup		Yes	
					New Disc Format	Yes	
					Reformat as DVD VR	Yes	
					Reformat as DVD Video	Yes	
					Finalize	Yes	
					Protect Disc	Yes	
					Undo Finalize	Yes	
				Other		Yes	
					Dimmer	Yes	
					Display/Call On/Off	Yes	
			AV Setup			Yes	
				Video		Yes	
					TV Screen	Yes	
					Still Mode	Yes	
					No Noise Background	Yes	
					Brightness	Yes	
					DVD Output	Yes	
					AV2	Yes	
					AV3 Input	Yes	
					Color System		No
				Audio		Yes	
					DRC (Dynamic Range Control)	Yes	
					Virtual Surround (Spatializer(N-2-2))	Yes	
					External Audio Input Selection	Yes	
					NICAM	Yes	
					DOLBY DIGITAL OUTPUT	Yes	
			Rec Setup			Yes	
				Initial Rec To		Yes	
				Initial Rec Mode		Yes	
				Auto Chapter		Yes	
				Index Picture		Yes	
				Bilingual Recording		Yes	
			CH Setup			Yes	
				CH tuning		Yes	
					CH	Yes	
					Skip	Yes	
					Decoder	Yes	
					Move	Yes	
					Tuning System		No
					Tuning	Yes	
				Auto Tuning		Yes	
				Guide CH Set			No
			Other	JPEG Interval		Yes	
				DivX VOD			No
		VCR Plus+ (VIDEO Plus+,SHOWVIEW, G-CODE)					No

GENERAL SPECIFICATIONS

G-10					
		Title Menu (VR Mode)		Yes	
			Chapter		
			Add Chapter Mark	Yes	
			Combine Chapters	Yes	
			Play	Yes	
			Rename Title	Yes	
			Title Protect		No
			Thumbnail Setting		No
			Delete Title	Yes	
			Title Combine		No
			Title Divide		No
			Edit Title	Yes	
			Rename Disc	Yes	
			Genre		No
			Play List		
			Play	Yes	
			Chapter		No
			Rename Title	Yes	
			Delete Playlist	Yes	
			Title Combine	Yes	
			Title Divide		No
			Edit Title	Yes	
		Title Menu (Video Mode)		Yes	
			Chapter		No
			Chapter Mark Add		No
			Chapter Mark Delete		No
			Play	Yes	
			Rename Title	Yes	
			Title Protect		No
			Thumbnail Setting		No
			Delete Title		No
			Title Combine		No
			Title Divide		No
			Edit Title		No
			Rename Disc	Yes	
			Genre		No
			Play List		No
			Play		No
			Chapter		No
			Rename Title		No
			Delete Playlist		No
			Title Combine		No
			Title Divide		No
			Edit Title		No
		Dubbing	DVD >>> VCR	Yes	
			VCR >>> DVD	Yes	
			Disc Information	Yes	
			Disc Type	Yes	
			Disc Remain Time	Yes	
			Open	Yes	
			Close		No
			No disc	Yes	
			Reading	Yes	
			DVD Mode	Yes	
			Play	Yes	
			Pause/Still	Yes	
			Stop	Yes	
			Prohibit Mark	Yes	
			Step	Yes	
			Skip (>>|)	Yes	
			Skip (|<<)	Yes	
			Random	Yes (CD, Video CD, SVCD)	
			Repeat	Yes	
			Slow+	Yes	
			Slow-		No
			Search+	Yes	
			Search-	Yes	
			Time Search (Jump)	Yes	
			Resume	Yes	
			Title No.	Yes	
			Chapter No.	Yes	
			Track No.	Yes	
			Time	Yes	
			Subtitle No.	Yes	
			Angle No.	Yes	
			Vocal On/Off	Yes	
			Audio No.	Yes	
			Audio L/R	Yes (Video CD, SVCD)	
			Zoom	Yes	
			Marker No.		No
			Program Play Back	Yes (CD, MP3, Video CD, SVCD, WMA)	
			MP3 / WMA / JPEG Folder Name	Yes	
			File Name	Yes	
			File No		No
			Time	Yes	
			Track No		No
			Progressive Scan Out On/Off	Yes	

GENERAL SPECIFICATIONS

	On Screen Display (VCR)	Menu			No
		Menu Type			-
		Play/Stop/FF/Rew/Rec/OTR (ITR)/T-Rec/Pause/Eject/Tape In (Symbol Mark)			Yes
			CH/AV (LINE)		Yes
			VCR Mode		Yes
			Clock		Yes
			Repeat		Yes
			Tape Counter		Yes
			Index		Yes
			Tape Speed		Yes
			Decoder		No
			Sound		Yes
			Manual Tracking (Bar Setting)		Yes
			Hi-Fi		Yes
			Zero Return		Yes
			OTPB		No
G-11	**OSD Language**	DVD OSD			English, French, Spanish, German, Italian
		VCR OSD			English, French, Spanish, German, Italian
G-12	**Clock, Timer and Timer Back-up**	Calendar			1990/1/1 ~ 2081/12/31
		Timer Events			12Program / 1Month
		One Touch Recording Max Time			6 hours
		Timer Back-up (at Power Off Mode)			30 min
G-13	**Display**	Display			Yes
			Display Type		6Digit Fluorescent Indicator
			Clock		Yes (24h)
				AM	No
				PM	No
			Counter	VCR	Yes (hour: min: sec)
				DVD	Yes (hour: min: sec)
				CD	Yes (min: sec)
			TV/VIDEO		Yes
			CD		Yes
			DVD		Yes
				VR Mode	Yes
				Video Mode	No
			DVD-R		Yes
			DVD-RW		Yes
			DVD+R		No
			DVD+RW		No
			DVD-RAM		No
			Disc In		Yes
			Tape In		Yes
			T-Rec		Yes
			XP		Yes
			SP		Yes
			LP		Yes
			SLP		Yes
			EP		No
			VP		No
			Counter Remain		No
			Chapter		No
			Title		No
			Track No.		Yes
			Repeat (A-B/All)		No
			Play	(VCR Side)	Yes
			Pause / Still / Step	(VCR Side)	Yes
			Rec	(VCR Side)	Yes
			Play	(DVD Side)	Yes
			Pause / Still / Step	(DVD Side)	Yes
			Rec	(DVD Side)	Yes
			RF Output CH		No
			Eject		Yes
			Stop		No
			FF / Cue		No
			REW / Review		No
			OTR (ITR)		No
			Hi-Fi		No
			CH/AV		Yes
			BS		No
			CATV		No
			Progressive Scan Out		Yes
			Under processing		Yes
			PBC (Play Back Control)		No

GENERAL SPECIFICATIONS

G-14	**Remote Control**	Unit		RC-JJ
		Glow in Dark Remocon		No
		LCD		No
		Format		NEC
		Remocon Format		ORION
		Custom Code		70-8FH
		Power Source	Voltage (D.C)	3V
			UM size x pcs	UM-4 x 2 pcs
		Total Keys		50 Keys
		Keys	POWER	Yes
			EJECT	Yes
			OPEN / CLOSE	Yes
			DVD / VCR	Yes
			1	Yes
			2	Yes
			3	Yes
			4	Yes
			5	Yes
			6	Yes
			7	Yes
			8	Yes
			9	Yes
			0	Yes
			0 / 10	No
			11	No
			12	No
			T-REC	Yes
			INPUT SELECT	Yes
			CLEAR / CANCEL	Yes
			RETURN	Yes
			DISPLAY / CALL	Yes
			TOP MENU / TITLE LIST	Yes
			UP/ CH+	Yes
			DOWN / CH-	Yes
			LEFT / TRACKING-	Yes
			RIGHT/ TRACKING+	Yes
			SELECT / ENTER	Yes
			DVD MENU	Yes
			SETUP	Yes
			STOP	Yes
			PLAY	Yes
			PAUSE / STILL / STEP	Yes
			|<<SKIP / INDEX-	Yes
			<<SEARCH / REW	Yes
			SEARCH>> / F.FWD	Yes
			SKIP>>| / INDEX+	Yes
			ONE TOUCH REPEAT	Yes
			CM SKIP	Yes
			<<SLOW	No
			SLOW>>	Yes
			REC / OTR	Yes
			REC MODE / SPEED	Yes
			DUBBING	Yes
			AUDIO / AUDIO SELECT	Yes
			MARKER	No
			ZOOM	Yes
			REPEAT A-B	Yes
			ZERO RETURN	Yes
			ANGLE / COUNTER RESET	Yes
			SUBTITLE / ATR	Yes
			PLAY MODE / REPEAT	Yes
			CLOCK / COUNTER	Yes
			CHAPTER MARK	No
			NAVI MARK	No
			TV / VIDEO	Yes
			VCR Plus+ (VIDEO Plus+,SHOWVIEW, G-CODE)	No
			PROGRESSIVE	Yes

GENERAL SPECIFICATIONS

G-15	**Features (DVD & VCR)**	Auto Power Off		No
		CM Skip (30sec x 6 Times)		Yes
		Copy (Tape to Disc, Disc to Tape)		Yes (By Conditioning)
		VCR Plus+ (VIDEO Plus+,SHOWVIEW, G-CODE)		No
		Auto Set Up	Auto Tuning	Yes
			CH Sort	No
			ATS	No
			Guide CH Set	No
			Auto Clock	No
			Plug In Start	Yes
		VPS/PDC		No
		Energy Star		No
		Analog BS		No
		Power On Memory		No
	Features (DVD)	Echo		No
		Mic Mixing		No
		DV Rec		No
		Timeshift Playback		No
		DivX Playback		No
		Video CD Playback		Yes
		SVCD Playback		Yes
			Overlay Graphics And Text	No
			Command List	No
			Entry Point Jump	No
		MP3 Playback		Yes
		WMA Playback		Yes
		JPEG Playback		Yes
		Progressive Scan Out		Yes
		Digital Out	(Dolby Digital)	Yes
			(MPEG)	Yes
			(PCM)	Yes
			(DTS)	Yes
		Down Mix Out	(Dolby Digital)	Yes
			(DTS)	No
		Spatializer (N-2-2)		Yes
		Screen Saver		No
		Auto Stop		No
		Tray Lock		Yes
		One Touch Repeat		Yes
		S-Video Output (SCART1 DVD Only)		Yes
		Audio DAC		192kHz / 24bit
	Features (VCR)	Auto Head Cleaning		No
		Index Search		Yes
		Forward/Reverse Picture Search		Yes
		SQPB (PAL SP Mode Only)		No
		Rec End Search		No
		CS Easy		No
G-16	**Accessories**	Owner's Manual		Yes
			Language	German/English/Swedish
			w/Guarantee Card	No
		Remote Control Unit		Yes
		Dew Caution Sheet		No
		Battery		Yes
			UM size x pcs	UM-4 x 2 pcs
		Blank DVD-RW DISC (4.7GB)		No
		Blank DVD-R DISC (4.7GB)		No
		Tape Rewinder		No
		Safety Tip		No
		Toll Free Insert Sheet		No
		Quick Set-Up Sheet		No
		Information Sheet		Yes
		75 Ohm Coaxial Cable		Yes (0.9m)
			type	Single shield
		U/V Mixer		No
		DC Car Cord (Center+)		No
		Guarantee Card		No
		Warning Sheet		No
		Circuit Diagram		No
		Antenna Change Plug		No
		Service Facility List		No
		Important Safeguard		No
		Dew/AHC Caution Sheet		No
		AC Plug Adapter		No
		AC Cord		No
		AV Cord (2Pin-1Pin)		No
		Registration Card		No
		21pin Cable (Single Shield)		Yes
		300 ohm to 75 ohm Antenna Adapter		No

GENERAL SPECIFICATIONS

G-17	**Interface**	Switch	Front	Power	Yes
				Play	Yes
				Eject (VCR)	Yes
				Stop	Yes
				Rec / OTR	Yes
				Open / Close (DVD)	Yes
				CH +	Yes
				CH -	Yes
				FF / Search(>>)	Yes
				Rew / Search(<<)	Yes
				Still / Pause	No
				Shuttle (Search / REV / FWD)	No
				DVD / VCR	Yes
				Main Power SW	No
			Rear	S-Video / Component Video Selector	No
				RF Out (Slide SW)	No
				Main Power SW	No
		Volume		Phones Volume	No
				Mic Volume	No
				Echo Volume	No
		Terminals	Front	Video In	RCA x1(Yellow) S-Video x 1 (DVD Rec Only)
				Audio In	RCA x 2 (Stereo, White/Red)
				DV In (IEEE1394)	No
			Rear	Video Output	Component x1 (RCA 3pin, DVD Signal Only)
				Audio Output	RCA x 2 (Stereo, White/Red) Coaxial x 1 (Digital Audio, DVD Signal Only)
				Video In	No
				Audio In	No
				Optical Digital Audio Out	No
				Euro Scart	2SCART
				Ext Speaker	No
				VHF/UHF Antenna Input/Output	DIN Type
				AC Inlet	No
		Indicator	LED	Power	No
				Rec	No
				T-Rec	No
				TV/VCR	No
				DVD	Yes (GREEN)
				VCR	Yes (AMBER)
				Surround	No
				Level Meter	No
G-18	**Set Size**			Approx. W x D x H (mm)	430 x 309 x 89.5
G-19	**Weight**			Net (Approx.)	5.0 kg (11.0 lbs)
				Gross (Approx.)	6.5 kg (14.3 lbs)
G-20	**Carton**		Master Carton		No
				Content	--- Sets
				Material	--- / ---
				Dimensions W x D x H (mm)	---
				Description of Origin	---
			Gift Box	Material	Single/White
				W/Color Photo Label	No
				Dimensions W x D x H (mm)	500 x 430 x 174
				Description of Origin	No
			Drop Test	Natural Dropping At	1 Corner / 3 Edges / 6 Surfaces
				Height (cm)	80 cm
			Container Stuffing		1,625 Sets/40' container
G-21	**Material**		Cabinet Front		PS 94V0 Non-Decabrom
			PCB	Non-Halogen Demand	No
				Eyelet Demand	No
G-22	**Environment**		Environmental standard requirement (by buyer)		Green procurement of SHARP
			WEEE		Yes
			Pb-free		Phase3 (Phase3A)
N-1	**Note**			Fan Noise	Max. 36dB at 10cm in front of Front Panel

DISASSEMBLY INSTRUCTIONS

1. REMOVAL OF MECHANICAL PARTS AND P.C. BOARDS

NOTE

After the set assembling, perform the following process so that the wires don't touch to the heating parts.

1. Bind the CD7304, CD504 and Fan motor cable at the Fig. 1 position and fix them.
2. Pass the Fan motor cable through before the CD502 like the Fig. 1.
3. Pass the CD7304 through under the CD502 them plug in the connector like the Fig. 2. (Because, this prevent from the contact with the VCR Deck.)

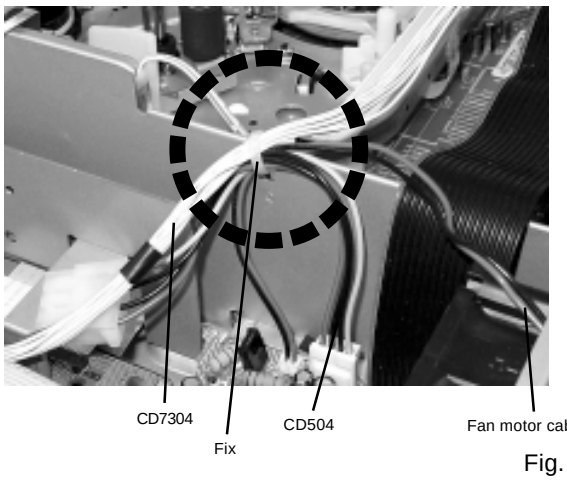


Fig. 1

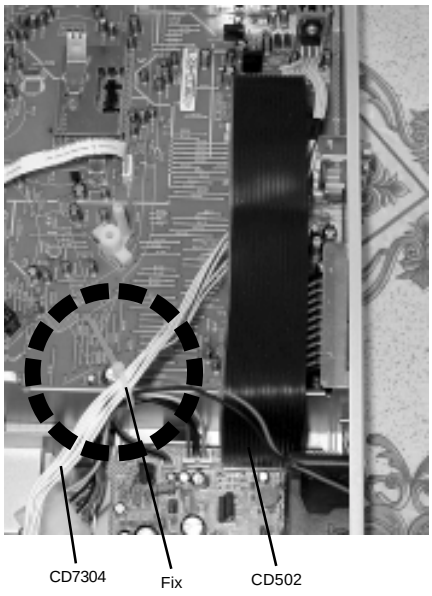


Fig. 2

1-1: TOP CABINET AND FRONT CABINET (Refer to Fig. 1-1)

1. Remove the 5 screws ①.
2. Remove the Top Cabinet in the direction of arrow (A).
3. Disconnect the following connectors: (CP654, CP681).
4. Unlock the 8 supports ②.
5. Remove the Front Cabinet in the direction of arrow (B).
6. Remove the 5 screws ③.
7. Remove the Operation 1/2 PCB in the direction of arrow (C).

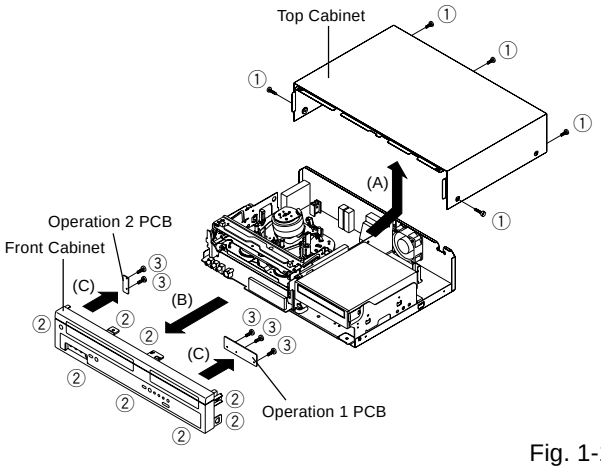


Fig. 1-1

1-2: FLAP (Refer to Fig. 1-2)

1. Open Flap to 90˚ and flex in direction of arrow (A), at the same time slide in direction of arrow (B).
2. Then lift in direction of arrow (C).

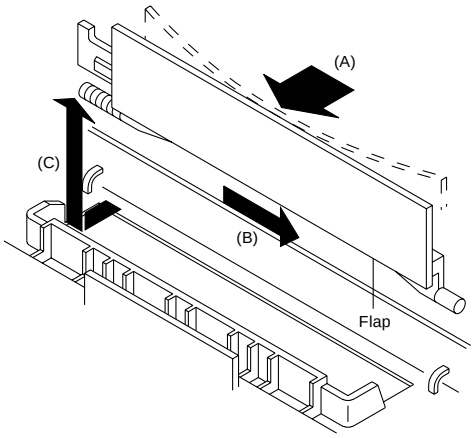


Fig. 1-2

DISASSEMBLY INSTRUCTIONS

1-3: DECK CD AND DVD/HD MPEG PCB (Refer to Fig. 1-3)

1. Remove the 2 screws ①.
2. Remove the Deck Shield in the direction of arrow (A).
3. Remove the 6 screws ②.
4. Disconnect the following connectors: (CP504, CP1703, CP8301,CP8302, CP8303).
5. Remove the Deck CD Block in the direction of arrow (B).
6. Remove the 4 screws ③.
7. Remove the MPEG Shield in the direction of arrow (C).
8. Disconnect the following connector: (CP4001).
9. Remove the DVD/HD MPEG PCB in the direction of arrow (D).
10. Remove the 2 screws ④.
11. Remove the DVD Angle (L) in the direction of arrow (E).
12. Remove the 2 screws ⑤.
13. Remove the DVD Angle (R) in the direction of arrow (F).

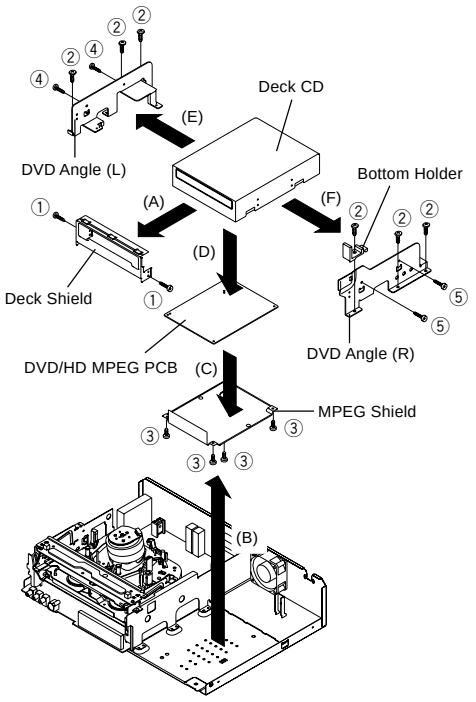


Fig. 1-3

1-4: POWER PCB (Refer to Fig. 1-4)

1. Remove the 2 screws ①.
2. Disconnect the following connector: (CP506).
3. Remove the Fan Motor in the direction of arrow (A).
4. Remove the 3 screws ②.
5. Disconnect the following connector: (CP1701).
6. Remove the Power PCB in the direction of arrow (B).

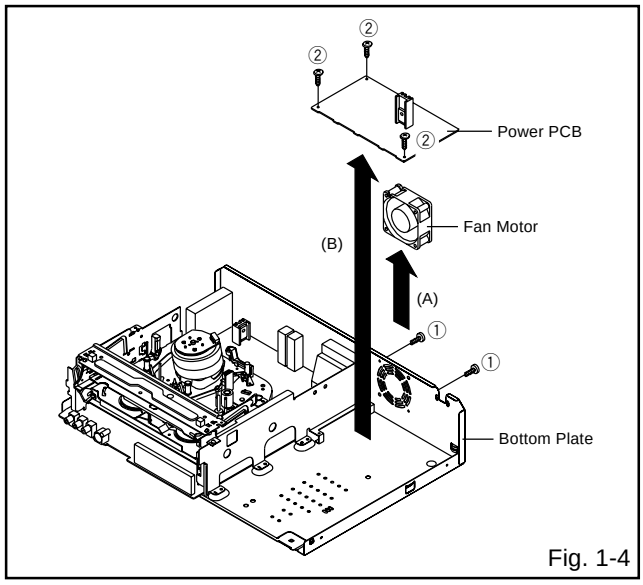


Fig. 1-4

1-5: VCR DECK (Refer to Fig. 1-5)

NOTE

Do not remove the cable at the FE Head section. The FE Head may be damaged if you remove the cable by force.

1. Unlock the 2 supports ① and remove the Top Holder.
2. Remove the screw ②.
3. Remove the FE Head.
4. Move the Cassette Holder Ass'y to the back side.
5. Remove the 3 screws ③.
6. Disconnect the following connectors: (CP101, CP102, CP3001).
7. Remove the AC Head Cover and VCR Deck in the direction of arrow.

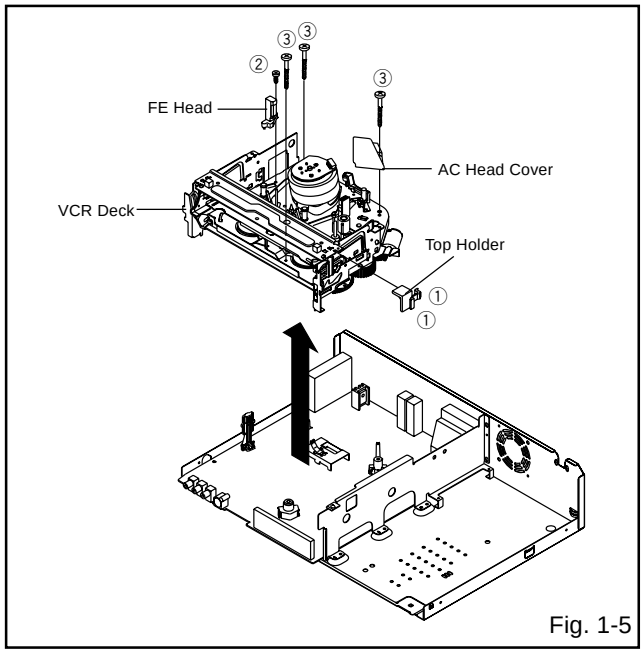


Fig. 1-5

DISASSEMBLY INSTRUCTIONS

1-6: VCR PCB (Refer to Fig. 1-6)

1. Remove the screw ①.
2. Remove the screw ②.
3. Remove the 3 screws ③.
4. Unlock the support ④.
5. Remove the Jack Shield.
6. Remove the VCR PCB in the direction of arrow.

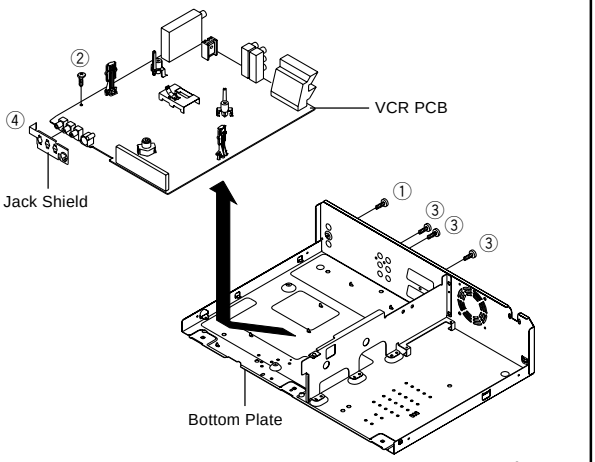


Fig. 1-6

DISASSEMBLY INSTRUCTIONS

2. REMOVAL OF VCR DECK PARTS

2-1: TOP BRACKET (Refer to Fig. 2-1)

1. Extend the 2 supports ①.
2. Slide the 2 supports ② and remove the Top Bracket.

NOTE

1. After the installation of the Top Bracket, bend the support ① so that the Top Bracket is fixed.

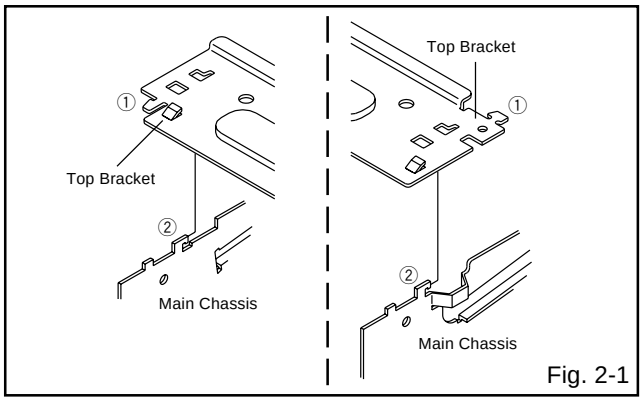


Fig. 2-1

2-2: CASSETTE HOLDER ASS'Y (Refer to Fig. 2-2)

1. Move the Cassette Holder Ass'y to the front side.
2. Push the Locker R to remove the Cassette Side R.
3. Remove the Cassette Side L.

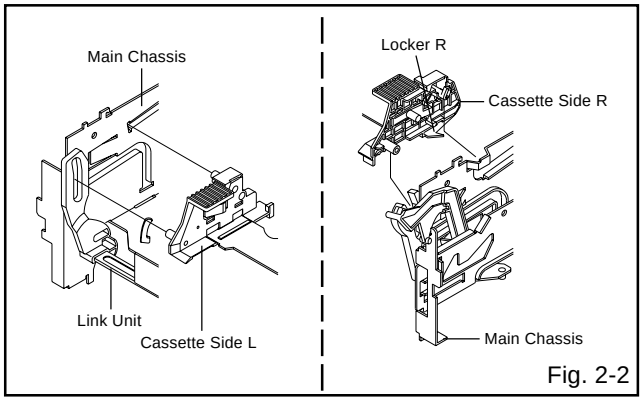


Fig. 2-2

2-3: LINK UNIT (Refer to Fig. 2-3)

1. Set the Link Unit to the Eject position.
2. Unlock the support ①.
3. Remove the (A) side of the Link Unit first, then remove the (B) side.

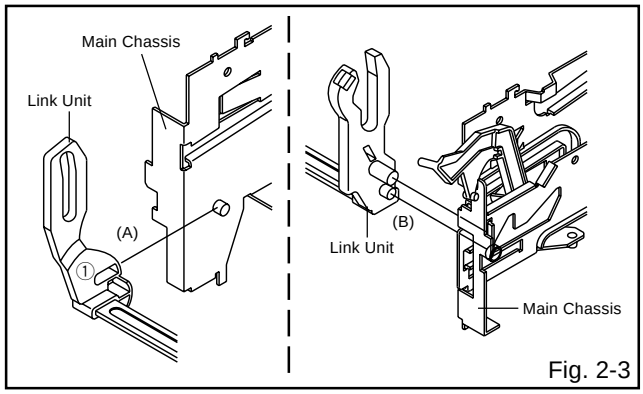


Fig. 2-3

2-4: LINK LEVER/FLAP LEVER (Refer to Fig. 2-4)

1. Extend the support ①.
2. Remove the Link Lever.
3. Remove the Flap Lever.

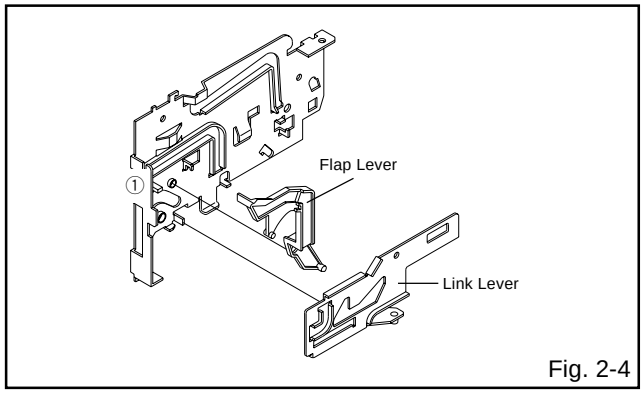


Fig. 2-4

DISASSEMBLY INSTRUCTIONS

2-5: LOADING MOTOR/WORM (Refer to Fig. 2-5-A)

1. Remove the screw ①.
2. Remove the Loading Motor.
3. Remove the Worm.

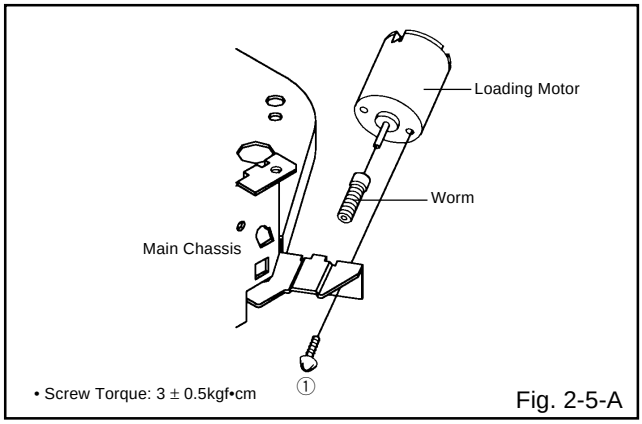


Fig. 2-5-A

NOTE

1. In case of the Worm installation, check if the value of the Fig. 2-5-B is correct.
2. In case of the Loading Motor installation, hook the wire on the Cassette Opener as shown Fig. 2-5-C.
3. When installing the wires between Capstan DD Unit and Loading Motor, connect them correctly as shown Fig. 2-5-D.

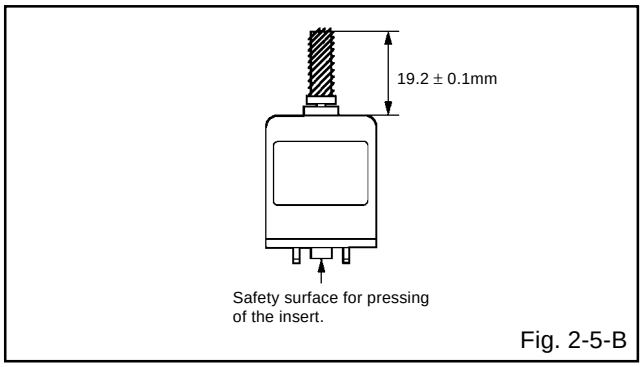


Fig. 2-5-B

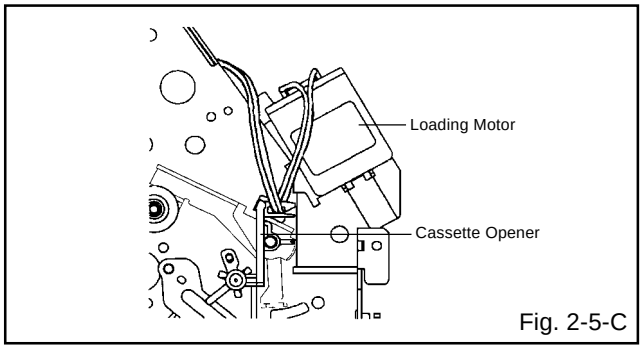


Fig. 2-5-C

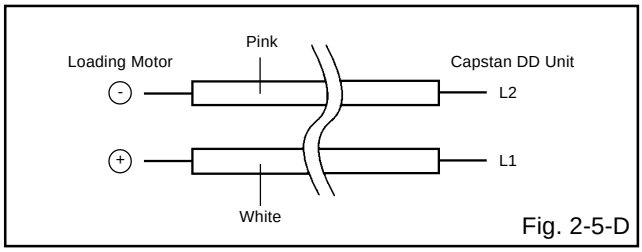


Fig. 2-5-D

2-6: TENSION ASS'Y (Refer to Fig. 2-6-B)

1. Turn the Pinch Roller Cam clockwise so that the Tension Holder hook is set to the position of Fig. 2-6-A to move the Tension Arm Ass'y.
2. Remove the Tension Spring.
3. Unlock the 2 supports ① and remove the Tension Band.
4. Unlock the support ② and remove the Tension Arm Ass'y.
5. Unlock the support ③ and remove the Tension Connect.
6. Float the hook ④ and turn it clockwise then remove the Tension Holder.

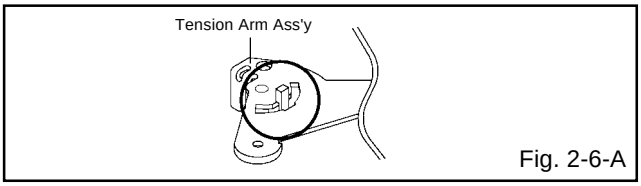


Fig. 2-6-A

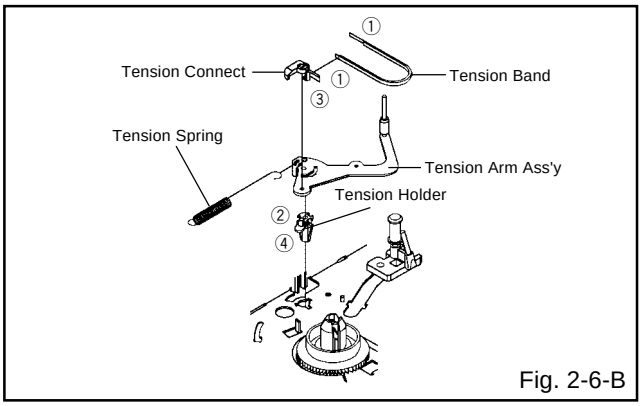


Fig. 2-6-B

NOTE

1. In case of the Tension Band installation, note the direction of the installation. **(Refer to Fig. 2-6-C)**
2. In case of the Tension Band installation, install correctly as Fig. 2-6-D.
3. In case of the Tension Connect installation, install as the circled section of Fig. 2-6-E.

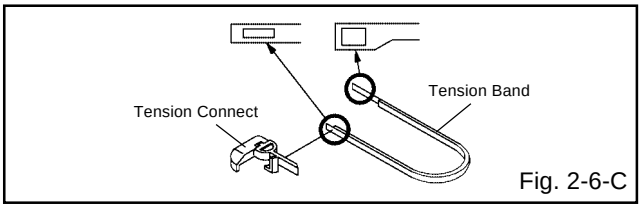


Fig. 2-6-C

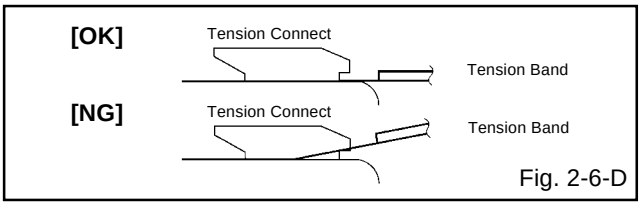


Fig. 2-6-D

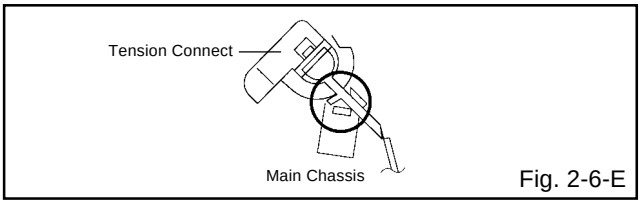


Fig. 2-6-E

DISASSEMBLY INSTRUCTIONS

2-7: T BRAKE ARM/T BRAKE BAND (Refer to Fig. 2-7-A)

1. Remove the T Brake Spring.
2. Turn the T Brake Arm clockwise and bend the hook section to remove it.
3. Unlock the 2 supports ① and remove the T Brake Band.

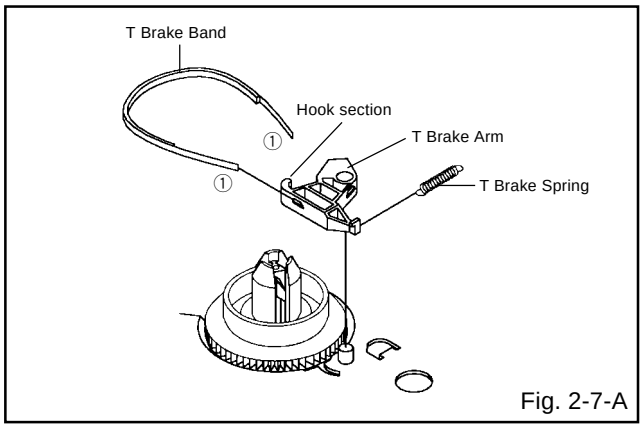


Fig. 2-7-A

NOTE

1. In case of the T Brake Band installation, install correctly as Fig. 2-7-B.

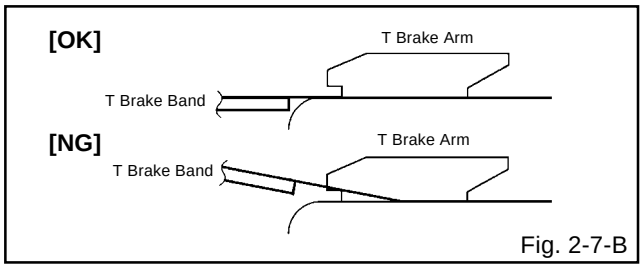


Fig. 2-7-B

2-8: S REEL/T REEL/IDLER ARM ASS'Y/IDLER GEAR (Refer to Fig. 2-8-A)

1. Remove the S Reel and T Reel.
2. Remove the 2 Polyslider Washers ①.
3. Remove the Idler Arm Ass'y and Idler Gear.

NOTE

1. Take care not to damage the gears of the S Reel and T Reel.
2. The Polyslider Washer may be remained on the back of the reel.
3. Take care not to damage the shaft.
4. Do not touch the section "A" of S Reel and T Reel. (Use gloves.) **(Refer to Fig. 2-8-A)** Do not adhere the stains on it.
5. When you install the reel, clean the shaft and grease it (FG-84M). (If you do not grease, noise may be heard in FF/REW mode.)
6. After installing the reel, adjust the height of the reel. **(Refer to MECHANICAL ADJUSTMENT)**

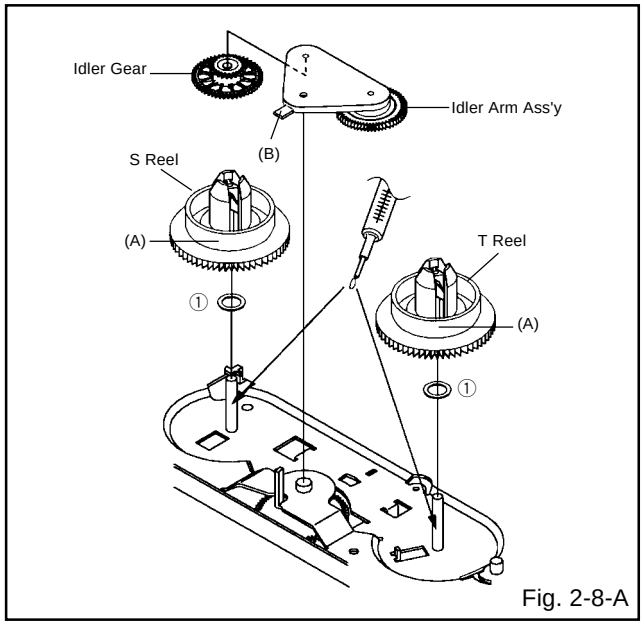


Fig. 2-8-A

NOTE

1. In case of the S Reel and T Reel installation, check if the correct parts are installed. **(Refer to Fig. 2-8-B)**
2. In case of the Idler Arm Ass'y installation, install correctly as Fig. 2-8-C. And also set it so that the section "B" of Fig. 2-8-A is placed under the Main Chassis tab.

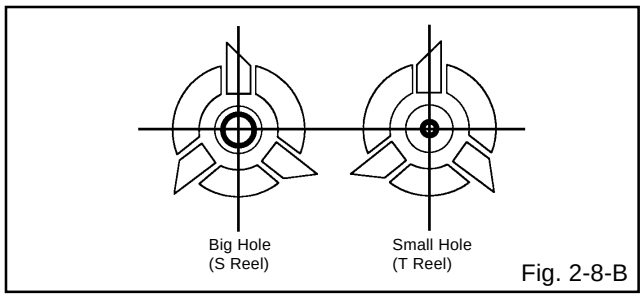


Fig. 2-8-B

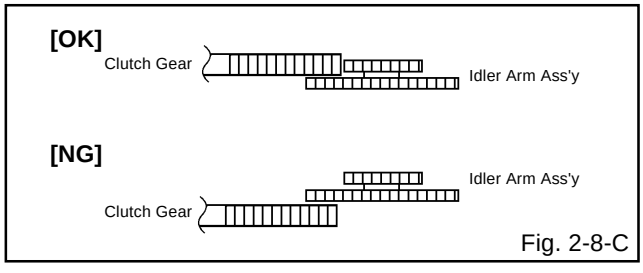


Fig. 2-8-C

DISASSEMBLY INSTRUCTIONS

2-9: CASSETTE OPENER/PINCH ROLLER BLOCK/ P5 ARM ASS'Y (Refer to Fig. 2-9-A)

1. Unlock the support ① and remove the Cassette Opener.
2. Remove the Pinch Roller Block and P5 Arm Ass'y.

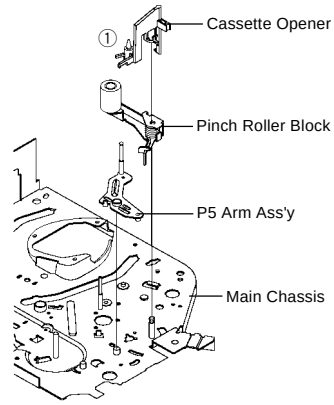


Fig. 2-9-A

NOTE

1. Do not touch the Pinch Roller. (Use gloves.)
2. In case of the Pinch Roller Block and the Pinch Roller Cam installation, install correctly as Fig. 2-9-B.

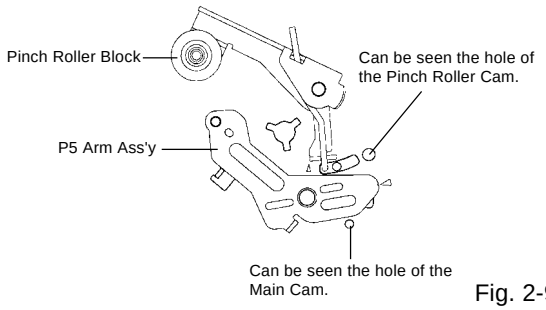


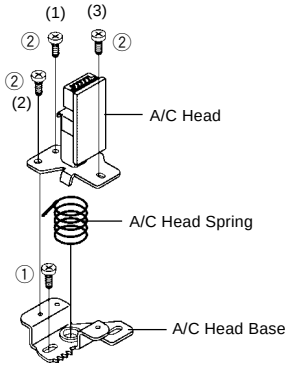
Fig. 2-9-B

2-10: A/C HEAD (Refer to Fig. 2-10-A)

1. Remove the screw ①.
2. Remove the A/C Head Base.
3. Remove the 3 screws ②.
4. Remove the A/C Head and A/C Head Spring.

NOTE

1. Do not touch the A/C Head. (Use gloves.)
2. When you install the A/C Head Spring, install as shown in Fig. 2-10-B.
3. When you install the A/C Head, tighten the screw (1) first, then tighten the screw (2), finally tighten the screw (3).



• Screw Torque: 5 ± 0.5kgf•cm (Screw ①)

Fig. 2-10-A

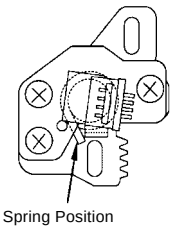
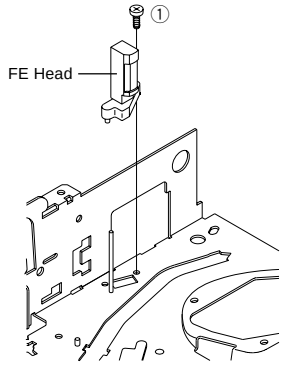


Fig. 2-10-B

2-11: FE HEAD (RECORDER ONLY) (Refer to Fig. 2-11)

1. Remove the screw ①.
2. Remove the FE Head.



• Screw Torque: 5 ± 0.5kgf•cm
• The FE Head is not installed on the Video Cassette Player.

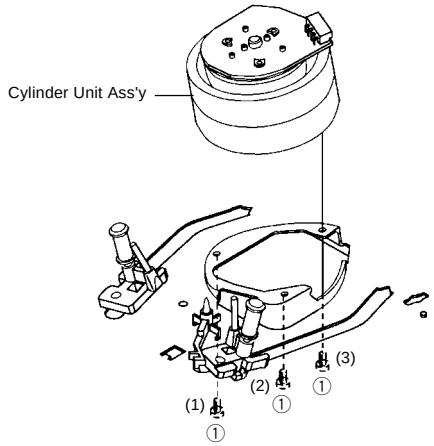
Fig. 2-11

2-12: CYLINDER UNIT ASS'Y (Refer to Fig. 2-12)

1. Disconnect the following connector: (CD2001)
2. Remove the 3 screws ①.
3. Remove the Cylinder Unit Ass'y.

NOTE

1. When you install the Cylinder Unit Ass'y, tighten the screws from (1) to (3) in order while pulling the Ass'y toward the left front direction.



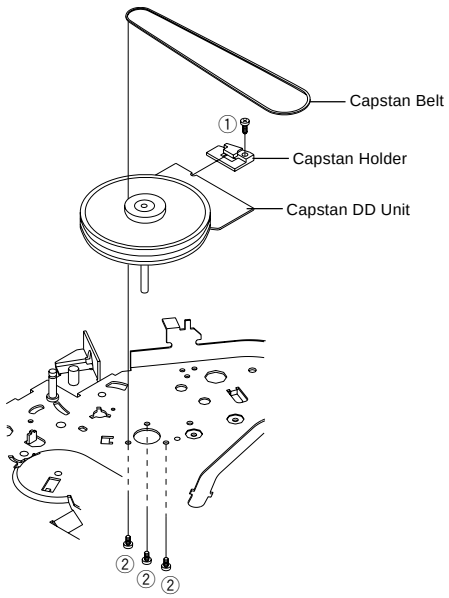
• Screw Torque: 3 ± 0.5kgf•cm

Fig. 2-12

DISASSEMBLY INSTRUCTIONS

2-13: CAPSTAN DD UNIT (Refer to Fig. 2-13)

1. Remove the Capstan Belt.
2. Remove the screw ①.
3. Remove the Capstan Holder.
4. Remove the 3 screws ②.
5. Remove the Capstan DD Unit.



• Screw Torque: 4 ± 0.5kgf•cm

Fig. 2-13

2-14: MAIN CAM/PINCH ROLLER CAM/JOINT GEAR (Refer to Fig. 2-14-A)

1. Remove the E-Ring ①, then remove the Main Cam.
2. Remove the E-Ring ②, then remove the Pinch Roller Cam and Joint Gear.

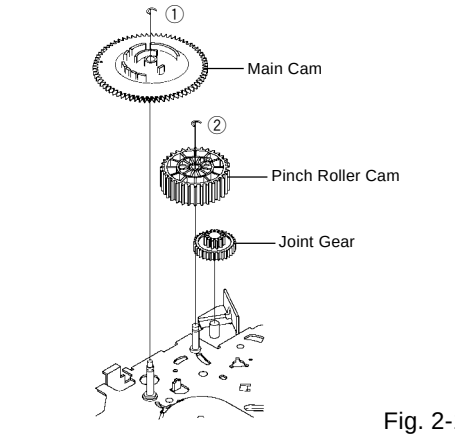


Fig. 2-14-A

NOTE

1. In case of the Pinch Roller Cam and Main Cam installation, install them as the circled section of Fig. 2-14-B so that the each markers are met. **(Refer to Fig. 2-14-B)**

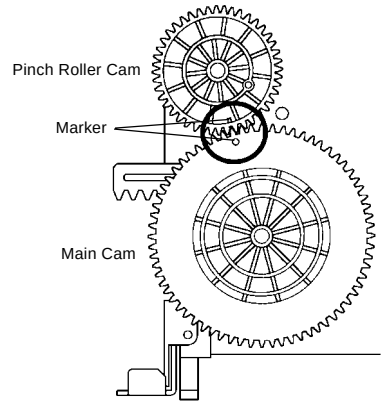


Fig. 2-14-B

2-15: LOADING GEAR S/T UNIT (Refer to Fig. 2-15-A)

1. Remove the E-Ring ① and remove the Main Loading Gear.
2. Remove the Main Rod, Tension Lever, Loading Arm S Unit and Loading Arm T Unit.

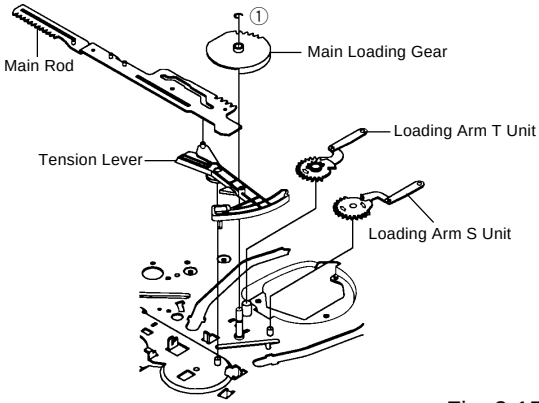


Fig. 2-15-A

NOTE

1. When you install the Loading Arm S Unit, Loading Arm T Unit and Main Loading Gear, align each marker. **(Refer to Fig. 2-15-B)**

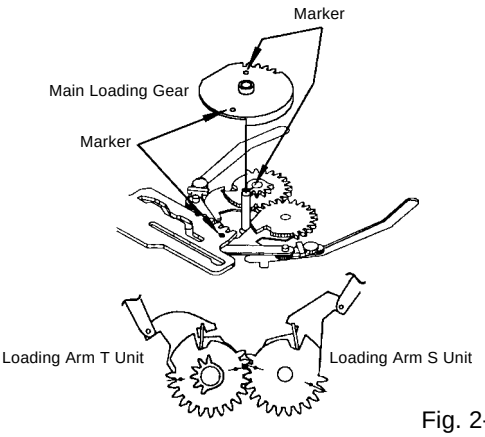


Fig. 2-15-B

DISASSEMBLY INSTRUCTIONS

2-16: CLUTCH ASS'Y/RING SPRING/CLUTCH LEVER/ CLUTCH GEAR (Refer to Fig. 2-16-A)

1. Remove the Polyslider Washer ①.
2. Remove the Clutch Ass'y and Ring Spring.
3. Remove the Clutch Lever.
4. Remove the Coupling Gear, Coupling Spring and Clutch Gear.

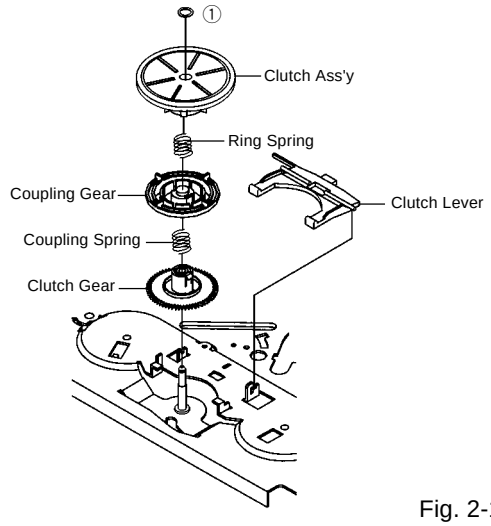


Fig. 2-16-A

NOTE

1. In case of the Clutch Ass'y installation, install it with inserting the spring of the Clutch Ass'y into the dent of the Coupling Gear. **(Refer to Fig. 2-16-B)**

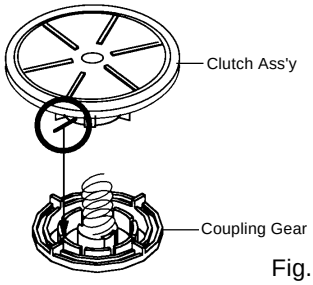


Fig. 2-16-B

2-17: CASSETTE GUIDE POST/INCLINED BASE S/T UNIT/P4 CAP/LED REFLECTOR (Refer to Fig. 2-17-A)

1. Remove the P4 Cap.
2. Unlock the support ① and remove the Cassette Guide Post.
3. Remove the Inclined Base S/T Unit.
4. Remove the screw ②.
5. Remove the LED Reflector.

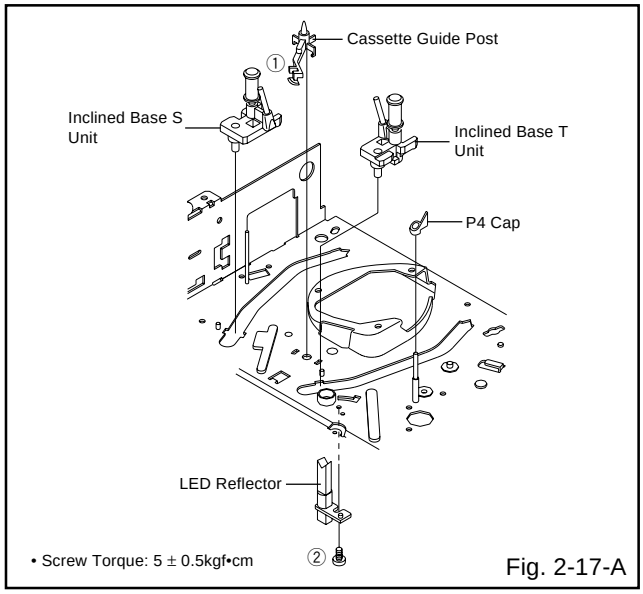


Fig. 2-17-A

NOTE

1. Do not touch the roller of Guide Roller.
2. In case of the P4 Cap installation, install it with parallel for "A" and "B" of Fig. 2-17-B.
3. In case of the Cassette Guide Post installation, install correctly as the circled section of Fig. 2-17-C.

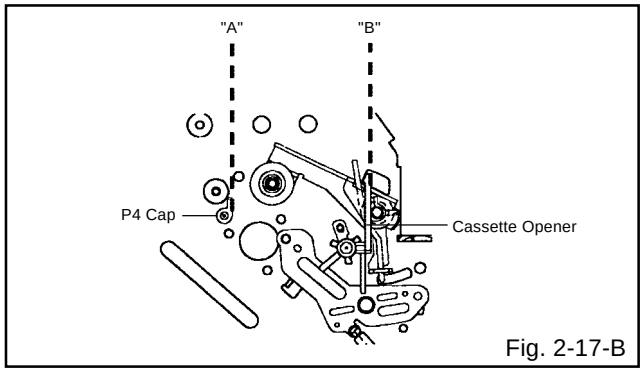


Fig. 2-17-B

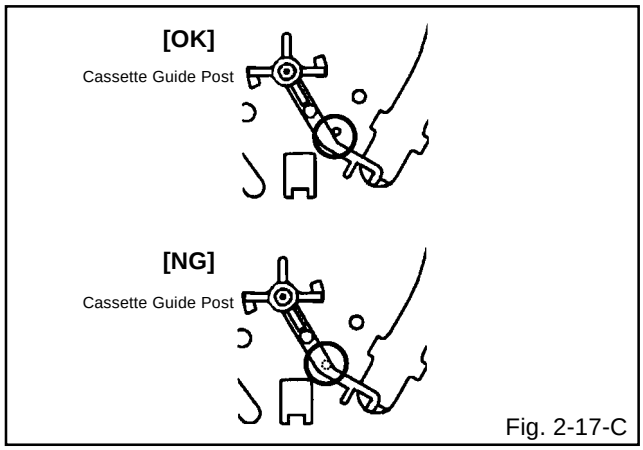


Fig. 2-17-C

DISASSEMBLY INSTRUCTIONS

3. REMOVAL AND INSTALLATION OF FLAT PACKAGE IC

REMOVAL

1. Put the Masking Tape (cotton tape) around the Flat Package IC to protect other parts from any damage. **(Refer to Fig. 3-1.)**

   NOTE

   Masking is carried out on all the parts located within 10 mm distance from IC leads.

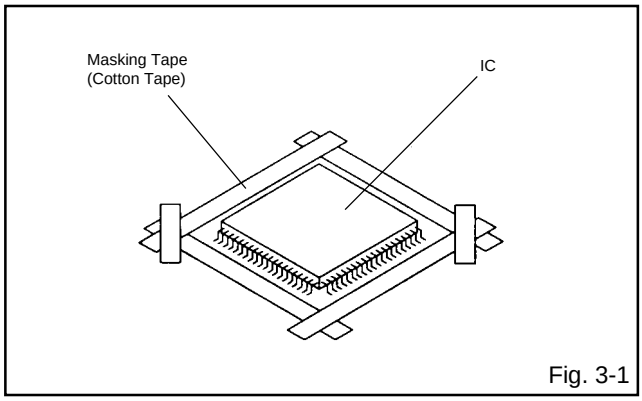


Fig. 3-1

2. Heat the IC leads using a blower type IC desoldering machine. **(Refer to Fig. 3-2.)**

   NOTE

   Do not add the rotating and the back and forth directions force on the IC, until IC can move back and forth easily after desoldering the IC leads completely.

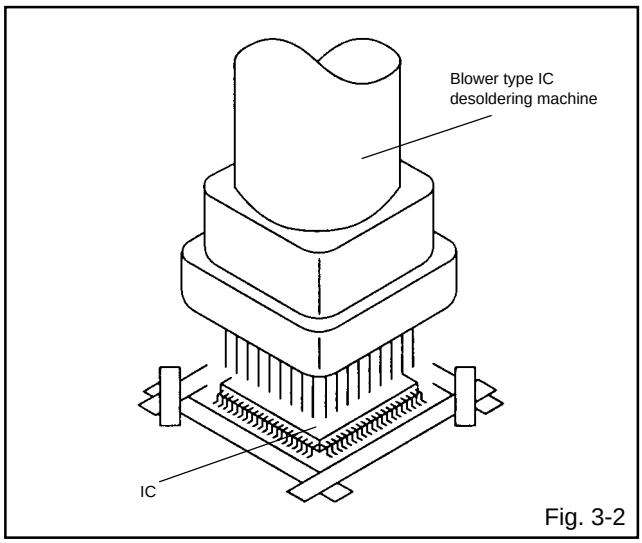


Fig. 3-2

3. When IC starts moving back and forth easily after desoldering completely, pickup the corner of the IC using a tweezers and remove the IC by moving with the IC desoldering machine. **(Refer to Fig. 3-3.)**

   NOTE

   Some ICs on the PCB are affixed with glue, so be careful not to break or damage the foil of each IC leads or solder lands under the IC when removing it.

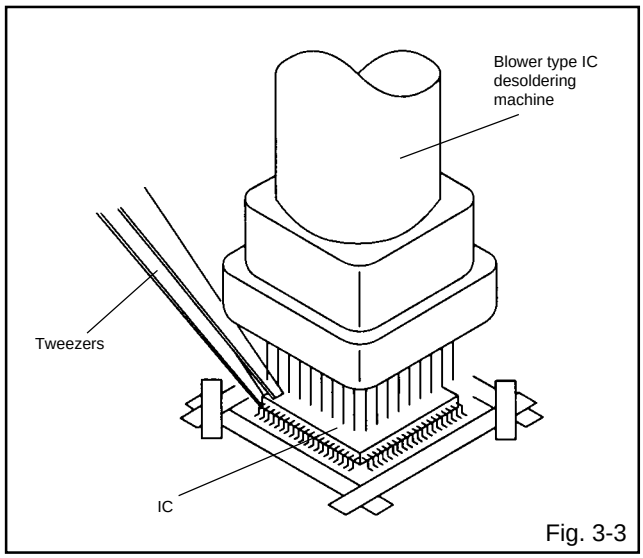


Fig. 3-3

4. Peel off the Masking Tape.

5. Absorb the solder left on the pattern using the Braided Shield Wire. **(Refer to Fig. 3-4.)**

   NOTE

   Do not move the Braided Shield Wire in the vertical direction towards the IC pattern.

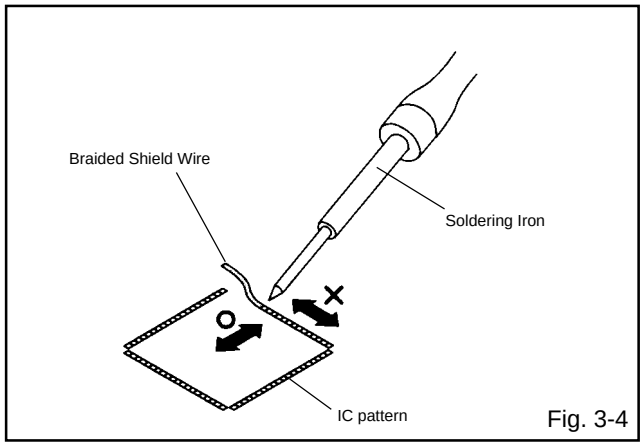


Fig. 3-4

DISASSEMBLY INSTRUCTIONS

INSTALLATION

1. Take care of the polarity of new IC and then install the new IC fitting on the printed circuit pattern. Then solder each lead on the diagonal positions of IC temporarily. **(Refer to Fig. 3-5.)**

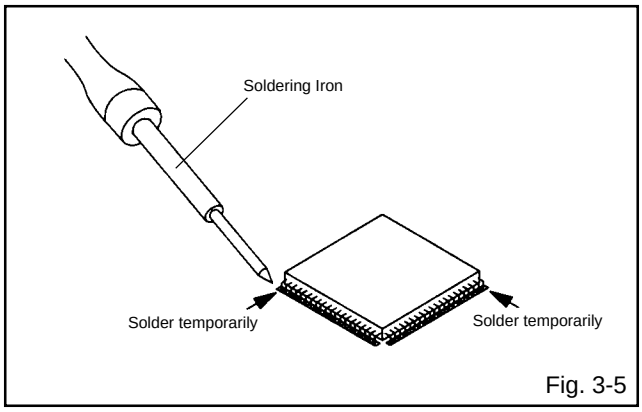


Fig. 3-5

2. Supply the solder from the upper position of IC leads sliding to the lower position of the IC leads. **(Refer to Fig. 3-6.)**

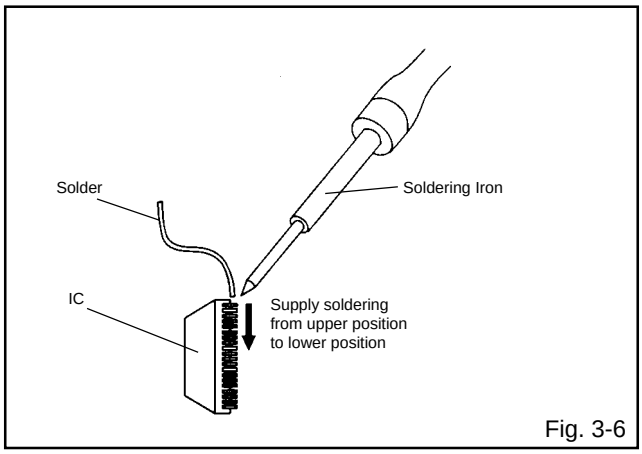


Fig. 3-6

3. Absorb the solder left on the lead using the Braided Shield Wire. **(Refer to Fig. 3-7.)**

   NOTE

   Do not absorb the solder to excess.

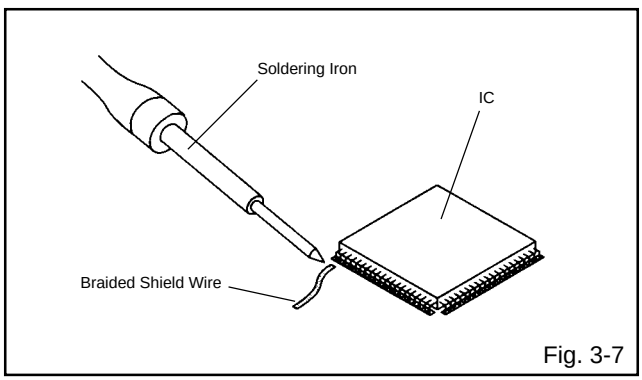


Fig. 3-7

4. When bridge-soldering between terminals and/or the soldering amount are not enough, resolder using a Thin-tip Soldering Iron. **(Refer to Fig. 3-8.)**

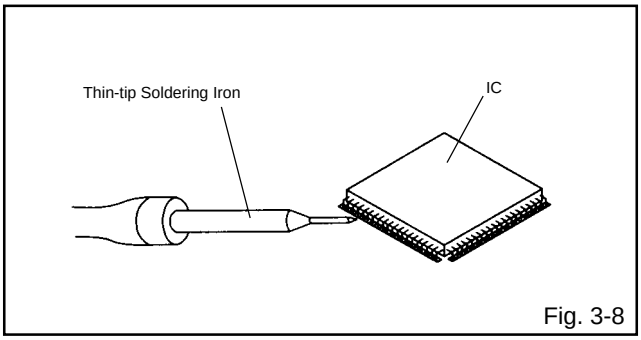


Fig. 3-8

5. Finally, confirm the soldering status on four sides of the IC using a magnifying glass.
   Confirm that no abnormality is found on the soldering position and installation position of the parts around the IC. If some abnormality is found, correct by resoldering.

   NOTE

   When the IC leads are bent during soldering and/or repairing, do not repair the bending of leads. If the bending of leads are repaired, the pattern may be damaged. So, always be sure to replace the IC in this case.

KEY TO ABBREVIATIONS

A	**A/C**	:	Audio/Control
	ACC	:	Automatic Color Control
	AE	:	Audio Erase
	AFC	:	Automatic Frequency Control
	AFT	:	Automatic Fine Tuning
	AFT DET	:	Automatic Fine Tuning Detect
	AGC	:	Automatic Gain Control
	AMP	:	Amplifier
	ANT	:	Antenna
	A.PB	:	Audio Playback
	APC	:	Automatic Phase Control
	ASS'Y	:	Assembly
	AT	:	All Time
	AUTO	:	Automatic
	A/V	:	Audio/Video
B	**BGP**	:	Burst Gate Pulse
	BOT	:	Beginning of Tape
	BPF	:	Bandpass Filter
	BRAKE SOL	:	Brake Solenoid
	BUFF	:	Buffer
	B/W	:	Black and White
C	**C**	:	Capacitance, Collector
	CASE	:	Cassette
	CAP	:	Capstan
	CARR	:	Carrier
	CH	:	Channel
	CLK	:	Clock
	CLOCK (SY-SE)	:	Clock (Syscon to Servo)
	COMB	:	Combination, Comb Filter
	CONV	:	Converter
	CPM	:	Capstan Motor
	CTL	:	Control
	CYL	:	Cylinder
	CYL-M	:	Cylinder-Motor
	CYL SENS	:	Cylinder-Sensor
D	**DATA (SY-CE)**	:	Data (Syscon to Servo)
	dB	:	Decibel
	DC	:	Direct Current
	DD Unit	:	Direct Drive Motor Unit
	DEMOD	:	Demodulator
	DET	:	Detector
	DEV	:	Deviation
E	**E**	:	Emitter
	EF	:	Emitter Follower
	EMPH	:	Emphasis
	ENC	:	Encoder
	ENV	:	Envelope
	EOT	:	End of Tape
	EQ	:	Equalizer
	EXT	:	External
F	**F**	:	Fuse
	FBC	:	Feed Back Clamp
	FE	:	Full Erase
	FF	:	Fast Forward, Flipflop
	FG	:	Frequency Generator
	FL SW	:	Front Loading Switch
	FM	:	Frequency Modulation
	FSC	:	Frequency Sub Carrier
	FWD	:	Forward
G	**GEN**	:	Generator
	GND	:	Ground
H	**H.P.F**	:	High Pass Filter
	H.SW	:	Head Switch
	Hz	:	Hertz
I	**IC**	:	Integrated Circuit
	IF	:	Intermediate Frequency
	IND	:	Indicator
	INV	:	Inverter
K	**KIL**	:	Killer
L	**L**	:	Left
	LED	:	Light Emitting Diode
	LIMIT AMP	:	Limiter Amplifier
	LM, LDM	:	Loading Motor
	LP	:	Long Play
	L.P.F	:	Low Pass Filter
	LUMI.	:	Luminance
M	**M**	:	Motor
	MAX	:	Maximum
	MINI	:	Minimum
	MIX	:	Mixer, mixing
	MM	:	Monostable Multivibrator
	MOD	:	Modulator, Modulation
	MPX	:	Multiplexer, Multiplex
	MS SW	:	Mecha State Switch
N	**NC**	:	Non Connection
	NR	:	Noise Reduction
O	**OSC**	:	Oscillator
	OPE	:	Operation
P	**PB**	:	Playback
	PB CTL	:	Playback Control
	PB-C	:	Playback-Chrominance
	PB-Y	:	Playback-Luminance
	PCB	:	Printed Circuit Board
	P. CON	:	Power Control
	PD	:	Phase Detector
	PG	:	Pulse Generator
	P-P	:	Peak-to Peak
R	**R**	:	Right
	REC	:	Recording
	REC-C	:	Recording-Chrominance
	REC-Y	:	Recording-Luminance
	REEL BRK	:	Reel Brake
	REEL S	:	Reel Sensor
	REF	:	Reference
	REG	:	Regulated, Regulator
	REW	:	Rewind
	REV, RVS	:	Reverse
	RF	:	Radio Frequency
	RMC	:	Remote Control
	RY	:	Relay
S	**S. CLK**	:	Serial Clock
	S. COM	:	Sensor Common
	S. DATA	:	Serial Data
	SEG	:	Segment
	SEL	:	Select, Selector
	SENS	:	Sensor
	SER	:	Search Mode
	SI	:	Serial Input
	SIF	:	Sound Intermediate Frequency
	SO	:	Serial Output
	SOL	:	Solenoid
	SP	:	Standard Play
	STB	:	Serial Strobe
	SW	:	Switch

KEY TO ABBREVIATIONS

S	**SYNC**	:	Synchronization
	SYNC SEP	:	Sync Separator, Separation
T	**TR**	:	Transistor
	TRAC	:	Tracking
	TRICK PB	:	Trick Playback
	TP	:	Test Point
U	**UNREG**	:	Unregulated
V	**V**	:	Volt
	VCO	:	Voltage Controlled Oscillator
	VIF	:	Video Intermediate Frequency
	VP	:	Vertical Pulse, Voltage Display
	V.PB	:	Video Playback
	VR	:	Variable Resistor
	V.REC	:	Video Recording
	VSF	:	Visual Search Fast Forward
	VSR	:	Visual Search Rewind
	VSS	:	Voltage Super Source
	V-SYNC	:	Vertical-Synchronization
	VT	:	Voltage Tuning
X	**X'TAL**	:	Crystal
Y	**Y/C**	:	Luminance/Chrominance

SERVICE MODE LIST

This unit provided with the following SERVICE MODES so you can repair, examine and adjust easily.
To enter to the SERVICE MODE function, press and hold both buttons simultaneously on the main unit or on the main unit and on the remote control for more than a standard time in the appropriate condition. (See below chart.)
In case of the main unit and remote control, press the remote control buttons first, then press the main unit buttons.

Set Condition	Set Key	Set Key	Standard Time	Operations
VCR mode	CH UP	FF	2 sec.	PLAY/REC total hours are displayed on the TV Monitor. Refer to the “PREVENTIVE CHECKS AND SERVICE INTERVALS” (CONFIRMATION OF HOURS USED). Can be checked of the INITIAL DATA of MEMORY IC. Refer to the “WHEN REPLACING EEPROM (MEMORY) IC”.
Power On	CH UP	PLAY	2 sec.	Initialization of the factory on VCR. NOTE: If you set a factory initialization, the memories are reset such as the clock setting, the channel setting, and PLAY/REC total hours.
VCR mode (Playback)	CH UP	CH DOWN	2 sec.	Adjusting of the Tracking to the center position. NOTE: Also can be adjusted by pressing the ATR button for more than 2 seconds during PLAY.
VCR mode	CH UP	REC	2 sec.	The BOT, EOT, and the Reel Sensor do not work and the VCR deck can be operated without a cassette tape. Refer to the "PREPARATION FOR SERVICING"
VCR mode (Playback)	VCR/DVD	REC	2 sec.	Adjust the PG SHIFTER automatically. Refer to the “ELECTRICAL ADJUSTMENT”.
Power On	CH DOWN	VCR/DVD	2 sec.	Information screen displayed on the TV Monitor. Refer to the “WHEN REPLACING NEW DVD LOADER”.
Power Off	CH DOWN	POWER	2 sec.	VCR operation mode at no connection of DVD. Refer to the “PREPARATION FOR SERVICING” NOTE: Although the DVD is connected, the DVD mode cannot be selected.

Set Condition	Set Key	Remocon Key	Standard Time	Operations
DVD mode (STOP)	STOP	0	2 sec.	Tray cannot be opened. Refer to the “TRAY LOCK”. NOTE: No indications on the screen when the Tray Lock is setting. The function will only work without the setting of DVD disc at DVD mode.
DVD mode (No disc)	STOP	2	2 sec.	DVD Write mode. Refer to the “RE-WRITE FOR DVD FIRMWARE”.
DVD mode (No disc)	STOP	6	2 sec.	Initialization of the factory on DVD. NOTE: Do not use this for the normal servicing.
DVD mode (No disc)	STOP	7	2 sec.	Releasing of PARENTAL LOCK. Refer to the “PARENTAL CONTROL - RATING LEVEL”.
DVD mode (STOP)	STOP	8	2 sec.	Region setting. Refer to the “WHEN REPLACING NEW DVD LOADER”.

PREVENTIVE CHECKS AND SERVICE INTERVALS

The following standard table depends on environmental conditions and usage.
Parts replacing time does not mean the life span for individual parts.
Also, long term storage or misuse may cause transformation and aging of rubber parts.
The following list means standard hours, so the checking hours depends on the conditions.

Time / Parts Name	500 hours	1,000 hours	1,500 hours	2,000 hours	2,500 hours	Notes
Audio Control Head	■	■	■	●	●	Clean those parts in contact with the tape.
Full Erase Head (Recorder only)	■	■	■	●	●	
Capstan Belt		●	●	●	●	Clean the rubber, and parts which the rubber touches.
Pinch Roller	■	●	●	●	●	
Capstan DD Unit		●	●	●	●	
Loading Motor					●	
Tension Band		●	●	●	●	
T Brake Band		●	●	●	●	
Clutch Ass'y		●	●	●	●	
Idler Arm Ass'y		●	●	●	●	
Capstan Shaft	■	■	■	■	■	
Tape Running Guide Post	■	■	■	■	■	Replace when rolling becomes abnormal.
Cylinder Unit	■	●	●	●	●	Clean the Head

■ : Clean
● : Check it and if necessary, replace it.

CONFIRMATION OF HOURS USED

PLAY/REC total hours can be checked on the screen.
Total hours are displayed in 16 system of notation.

NOTE: If you set a factory initialization, the total hours is reset to "0".

1. Connect the set to TV Monitor.
2. Turn on the POWER, and set to the VCR mode.
3. Press both CH UP button on the set and the FF button on the set for more than 2 seconds.
   The **Fig. 1** screen will appear on TV Monitor.
4. After the confirmation of using hours, turn off the power.

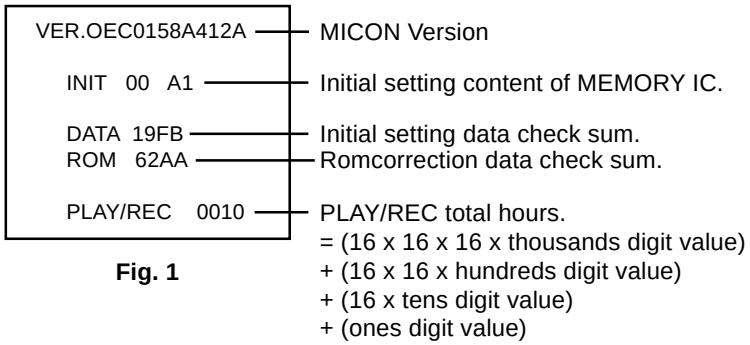


Fig. 1

PREVENTIVE CHECKS AND SERVICE INTERVALS

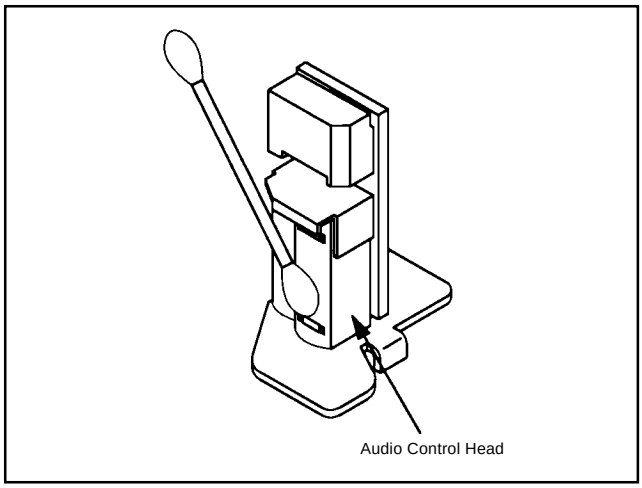
CLEANING

NOTE

After cleaning the heads with isopropyl alcohol, do not run a tape until the heads dry completely. If the heads are not completely dry and alcohol gets on the tape, damage may occur.

1. AUDIO CONTROL HEAD

Clean the Audio Control Head with the cotton stick soaked by alcohol. Clean the full erase head in the same manner. **(Refer to the figure below.)**



2. TAPE RUNNING SYSTEM

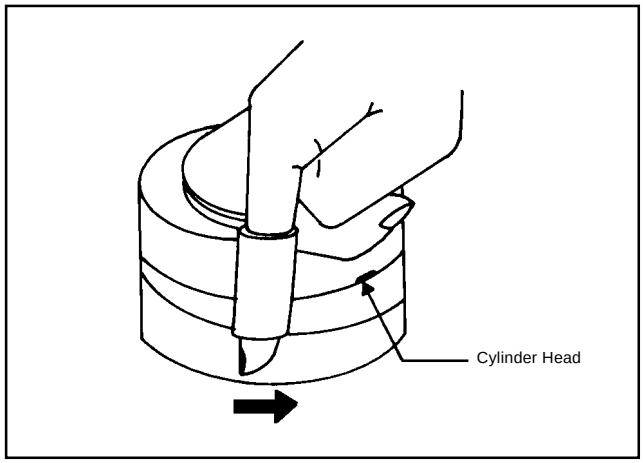
When cleaning the tape transport system, use the gauze moistened with isopropyl alcohol.

3. CYLINDER

Wrap a piece of chamois around your finger. Dip it in isopropyl alcohol. Hold it to the cylinder head softly. Turn the cylinder head counterclockwise to clean it (in the direction of the arrow). **(Refer to the figure below.)**

NOTE

Do not exert force against the cylinder head. Do not move the chamois upward or downward on the head.
Use the chamois one by one.



WHEN REPLACING EEPROM (MEMORY) IC

If a service repair is undertaken where it has been required to change the MEMORY IC, the following steps should be taken to ensure correct data settings while making reference to TABLE 1 and 2.

NOTE: After the DATA change, if the ENTER button is not pressed at the DATA selection mode and the power is turned off, the DATA change does not performed.
After the DATA change, press the ENTER button by all means and set to the ADDRESS selection mode, then turn off the power.

VCR side EEPROM (IC3099) initial setting

INIT	+0	+1	+2	+3	+4	+5	+6	+7	+8	+9	+A	+B	+C	+D	+E	+F
00	A1	45	79	80	A0	DD	36	AF	98	95	8A	1B	2A	09	29	13
10	44	84	28	F4	34	4A	A7	51	9F	3A	00	0D	BF	10	00	00
20	64	42	30	60	56	65	5E	00	AF	1A	FA	5F	00	00	00	00
30	00	00	00	00	00	D7	03	07	00	D7	5F	00	9F	18	FA	4F
40	00	00	00	AF	00	29	FF	3F	A2	50	21	01	30	20	00	30
50	70	00	00	70	05	00	00	7B	00	A0	38	---	---	---	---	---

Table 1

1. Connect the set to TV Monitor.
2. Turn on the POWER, and set to the VCR mode.
3. Press both CH UP button on the set and the FF button on the set for more than 2 seconds.
   ADDRESS and DATA will appear on TV Monitor as **Fig 1**.

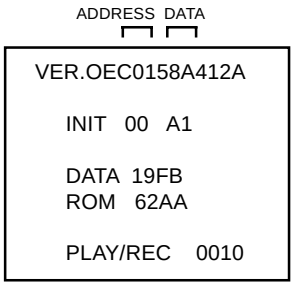


Fig. 1

4. ADDRESS is now selected and should “blink”. Using the Tracking + or - button on the remote, step through the ADDRESS until required ADDRESS to be changed is reached.
5. Press ENTER to select DATA. When DATA is selected, it will “blink”.
6. Again, step through the DATA using Tracking + or - button until required DATA value has been selected.
7. Pressing ENTER will take you back to ADDRESS for further selection if necessary.
8. Repeat steps 4 to 7 until all data has been checked.
9. When satisfied correct DATA has been entered, turn POWER off (return to STANDBY MODE) to finish DATA input.

After the data input, set to the initializing of shipping.

10. Turn on the POWER, and set to the VCR mode.
11. Press both CH UP button on the set and the PLAY button on the set for more than 2 seconds.
12. After the finishing of the initializing of shipping, the unit will turn off automatically.

The unit will now have the correct DATA for the new MEMORY IC.

WHEN REPLACING EEPROM (MEMORY) IC

DVD side EEPROM (IC4002) initial setting

NOTE: INI 3FF data can not be set.
The datas for the address excepting from 3A0 to 3FF are displayed "ERR". This unit is not defective.

INIT	+0	+1	+2	+3	+4	+5	+6	+7	+8	+9	+A	+B	+C	+D	+E	+F
3A0	02	01	01	01	02	01	02	01	02	1F	02	01	02	01	02	01
3B0	01	00	02	02	01	02	0E	01	01	00	00	00	00	00	00	00
3C0	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
3D0	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
3E0	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
3F0	00	00	00	00	00	00	00	00	00	00	00	00	00	07	08	---

Table 2

1. Connect the set to TV Monitor.
2. Turn on the POWER, and set to the DVD mode.
3. Press both Channel button **(6)** on the remote control and the STOP button on the set for more than 2 seconds. ADDRESS and DATA will appear on TV Monitor as **Fig 2** and the ADDRESS is now selected.

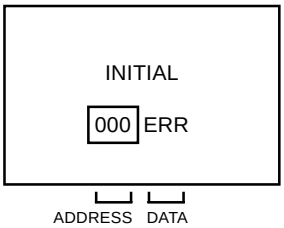


Fig. 2

4. Input the ADDRESS by using Channel +/- button or the following buttons below.
   Numbers are 10 keys from 0 to 9, Alphabets are
   A: VCR EJECT, B: DVD OPEN/CLOSE, C: DVD/VCR, D: TIMER REC, E: INPUT SELECT, F: DISPLAY.
5. Press ENTER to select DATA.
6. Again, step through the DATA using Channel + or - button until required DATA value has been selected.
7. Pressing ENTER will take you back to ADDRESS for further selection if necessary.
8. Repeat steps 4 to 7 until all data has been checked.
9. When satisfied correct DATA has been entered, turn POWER off (return to STANDBY MODE) to finish DATA input.

After the data input, set to the initializing of shipping.

10. Turn on the POWER, and set to the DVD mode.
11. Press both CH UP button on the set and the PLAY button on the set for more than 2 seconds.
12. After the finishing of the initializing of shipping, the unit will turn off automatically.

The unit will now have the correct DATA for the new MEMORY IC.

WHEN REPLACING NEW DVD LOADER

NOTE: If a service repair is undertaken where it has been required to change the New DVD Loader, Region setting is needed.
If the Region setting does not performed, only the Region Free disc can be played.
Region setting can only be done once. So, take notice very carefully.

1. Connect the set to TV Monitor.
2. Turn on the POWER, and set to the DVD mode.
3. Press both Channel button **(8)** on the remote control and the STOP button on the set for more than 2 seconds.
   Tray will open.
4. Place your Region setting disc on the tray and close.
   Writing will start.
5. After the writing, the writing Region No. will appear on the TV Monitor.

Perform the initializing of shipping

6. Press both CH UP button on the set and the PLAY button on the set for more than 2 seconds.
7. After the finishing of the initializing of shipping, the unit will turn off automatically.

Check for the Region No.

8. Turn on the POWER, and set to the DVD mode.
9. Press both CH DOWN button on the set and the DVD/VCR button on the set for more than 2 seconds.
   Information screen will be displayed on the TV Monitor. **(Refer to Fig. 1)**
10. If the writing Region No. is appeared, the Region setting is completed.
11. Turn off the power.

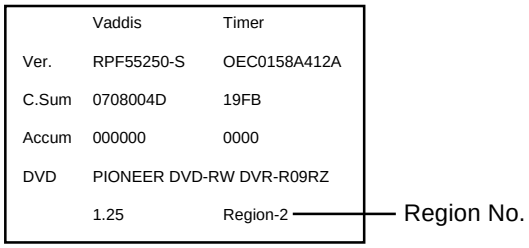


Fig. 1

RE-WRITE FOR DVD FIRMWARE

1. Connect the set to TV Monitor.
2. Turn on the POWER, and set to the DVD mode.
3. Confirm that the “No Disc” will be appeared on the screen.
   A disc is already inserted, eject the disc and power it on again.
4. Open the DVD tray.
5. Press both Channel button **(2)** on the remote control and the STOP button on the set for more than 2 seconds.
6. Press OPEN/CLOSE button on the set to check if all the keys on the unit do not function.
   NOTE: To check if DVD Write mode is set.
7. Place the Up-Date Disc and close the tray by hand.
8. Automatic read will start and "SDRAM writing" will be displayed on the screen.
9. Approx. 7 seconds later, the tray will open automatically. Remove the Up-Date Disc.
   The display will change to “FLASH writing”.
10. Then, Approx. 2 minutes 30 seconds later, the above indication will disappear and the tray will close automatically.
    When the "Please Reboot" appears on the screen, the writing will be finished.
    NOTE: Do not turn off the unit on the way or push the tray by hand to close it.
    Up-Date error will happen and can not be done with the Up-Date of Up-Date Disc.
11. Unplug the AC cord, then plug it in.

After the write, set to the initializing of shipping.

12. Turn on the POWER, and set to the DVD mode.
13. Press both CH UP button on the set and the PLAY button on the set for more than 2 seconds.
14. After the finishing of the initializing of shipping, the unit will turn off automatically.

CHECK FOR THE FIRMWARE VERSION

15. Turn on the POWER, and set to the DVD mode.
16. Press both CH DOWN button on the set and the VCR/DVD button on the set for more than 2 seconds.
    Information screen will be displayed on the TV Monitor. **(Refer to Fig. 1)**
17. When the changed version displays, the Re-write will be completed.
18. Turn off the power

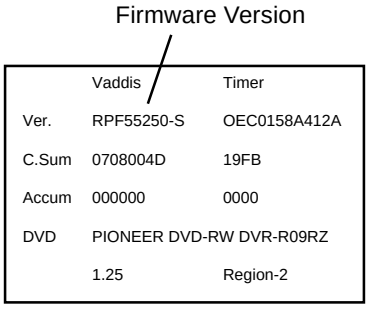
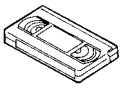
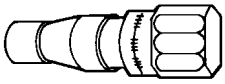
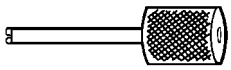
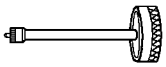
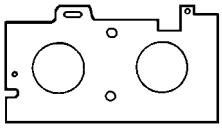
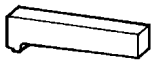
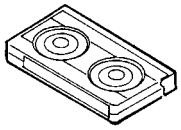


Fig. 1

SERVICING FIXTURES AND TOOLS

(For 2 head 1 speed model, 4 head model) VHS Alignment Tape JG001E (VP_1S-LI6^3) JG001F (VP_1S-CO1^3) JG001R (VP_1S-LI6^{3}H) JG001U (VP_1S-X6^3) 	**(For 2 head 2 speed model)** VHS Alignment Tape JG001C (VP_2S-LI6^3) JG001D (VP_2S-CO1^3) JG001V (VP_2S-X6^3) 	JG002B Adapter JG002E Dial Torque Gauge (10~90gf•cm) JG002F (60~1200gf•cm) 	JG005 Post Adjustment Screwdriver Part No. SV-TG0-030-000 (small) 
JG153 X Value Adjustment Screwdriver 	JG022 Master Plane 	JG024A Reel Disk Height Adjustment Jig 	JG100A Torque Tape (VHT-063) 

Ref. No.	Part No.	Parts Name	Remarks
JG001E	VROCPSV	VHS Alignment Tape	Monoscope, 6KHz **(For 2 head 1 speed model, 4 head model)**
JG001F	VROCPSV	VHS Alignment Tape	Color Bar, 1KHz **(For 2 head 1 speed model, 4 head model)**
JG001R	VROCBFFS	VHS Alignment Tape	Hi-Fi Audio **(For Hi-Fi model)**
JG001U	9JDAPJG001U00	VHS Alignment Tape	X Value Adjustment **(For 2 head 1 speed model, 4 head model)**
JG001C	VROUBZFS	VHS Alignment Tape	Monoscope, 6KHz **(For 2 head 2 speed model)**
JG001D	VROCPSV	VHS Alignment Tape	Color Bar, 1KHz **(For 2 head 2 speed model)**
JG001V	9JDAPJG001V00	VHS Alignment Tape	X Value Adjustment **(For 2 head 2 speed model)**
JG002B	JIGTH0006	Adapter	VSR Torque, Brake Torque (S Reel/T Reel Ass'y)
JG002E	JIGTG0090	Dial Torque Gauge (10~90gf•cm)	Brake Torque (T Reel Ass'y)
JG002F	JIGTG1200	Dial Torque Gauge (60~1200gf•cm)	VSR Torque, Brake Torque (S Reel)
JG005	9JDAPJG005000	Post Adjustment Screwdriver	Guide Roller Adjustment
JG153	9JDAPJG153000	X Value Adjustment Screwdriver	X Value Adjustment
JG022	9JDAPJG022000	Master Plane	Reel Disk Height Adjustment
JG024A	9JDAPJG024A00	Reel Disk Height Adjustment Jig	Reel Disk Height Adjustment
JG100A	JIGVHT-063	Torque Tape (VHT-063)	Playback Torque, Back Tension Torque During Playback

PREPARATION FOR SERVICING

1. While pressing the CH DOWN button on the set for more than 2 seconds, press the POWER button on the set simultaneously at the Power OFF. Although the DVD is connected, the DVD mode cannot be selected.
2. Press both CH UP button on the set and the REC button on the set for more than 2 seconds. (The BOT, EOT, and the Reel Sensor do not work and the VCR deck can be operated without a cassette tape.)
3. In case of using a cassette tape, press the EJECT button to insert or eject a cassette tape. Turn on the power and re-check the cable before checking the trouble points.

When you servicing with connection of DVD, perform the operations above step 2 to step 3.

MECHANICAL ADJUSTMENTS

1. CONFIRMATION AND ADJUSTMENT

Read the following NOTES before starting work.

- Place an object which weighs between 450g~500g on the Cassette Tape to keep it steady when you want to make the tape run without the Cassette Holder. (Do not place an object which weighs over 500g.)

1-1: CONFIRMATION AND ADJUSTMENT OF REEL DISK HEIGHT

1. Turn on the power and set to the STOP mode.
2. Set the master plane **(JG022)** and reel disk height adjustment jig **(JG024A)** on the mechanism framework, taking care not to scratch the drum, as shown in **Fig. 1-1-A**.
3. While turning the reel and confirm the following points. Check if the surface “A” of reel disk is lower than the surface “B” of reel disk height adjustment jig **(JG024A)** and is higher than the surface “C”. If it is not passed, place the height adjustment washers and adjust to 10(+2, -0)mm.
4. Adjust the other reel in the same way.

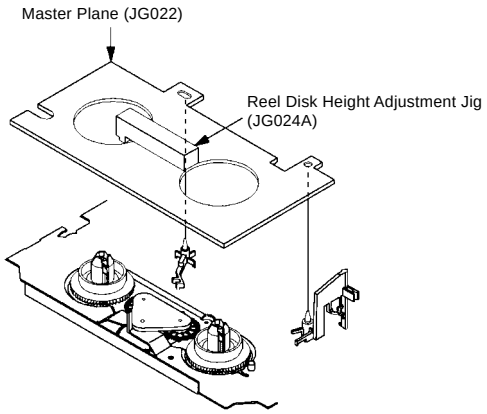


Fig. 1-1-A

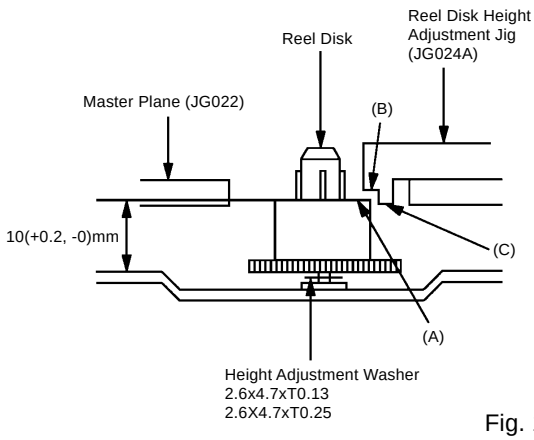


Fig. 1-1-B

1-2: CONFIRMATION AND ADJUSTMENT OF TENSION POST POSITION

1. Set to the PLAY mode.
2. Adjust the adjusting section for the Tension Arm position so that the Tension Arm top is within the standard line of Main Chassis.
3. While turning the S Reel clockwise, confirm that the edge of the Tension Arm is located in the position described above.

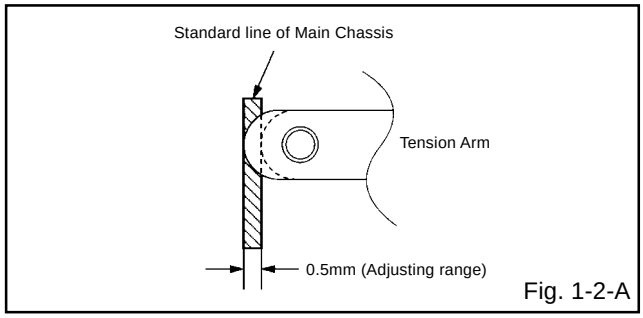


Fig. 1-2-A

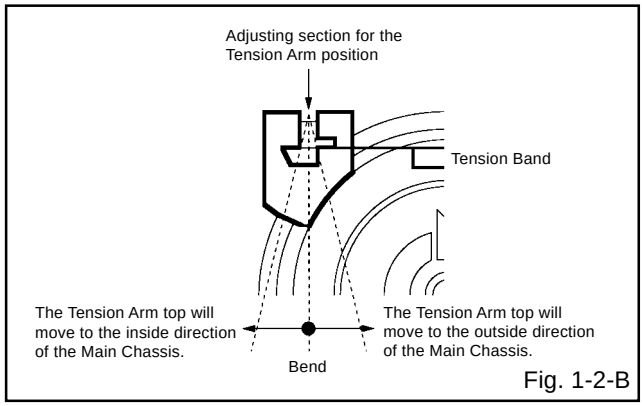


Fig. 1-2-B

1-3: CONFIRMATION OF PLAYBACK TORQUE AND BACK TENSION TORQUE DURING PLAYBACK

1. After confirmation and adjustment of Tension Post position **(Refer to item 1-2)**, load the cassette type torque tape **(JG100A)** and set to the PLAY mode.
2. Confirm that the right meter of the torque tape indicates 50~90gf•cm during playback in SP mode.
3. Confirm that the left meter of the torque tape indicates 25~40gf•cm during playback in SP mode.

MECHANICAL ADJUSTMENTS

1-4: CONFIRMATION OF VSR TORQUE

1. Install the Torque Gauge **(JG002F)** and Adapter **(JG002B)** on the S Reel. Set to the Picture Search (Rewind) mode. **(Refer to Fig.1-4-B)**
2. Then, confirm that it indicates 120~180gf•cm.

NOTE

Install the Torque Gauge on the reel disk firmly. Press the REW button to turn the reel disk.

1-5: CONFIRMATION OF REEL BRAKE TORQUE

(S Reel Brake) **(Refer to Fig. 1-4-B)**

1. Once set to the Fast Forward mode then set to the Stop mode. While, unplug the AC cord when the Pinch Roller Block is on the position of **Fig. 1-4-A**.
2. Move the Idler Ass'y from the S Reel.
3. Install the Torque Gauge **(JG002F)** and Adapter **(JG002B)** on the S Reel. Turn the Torque Gauge **(JG002F)** clockwise.
4. Then, confirm that it indicates 60~100gf•cm.

(T Reel Brake) **(Refer to Fig. 1-4-B)**

1. Once set to the Fast Forward mode then set to the Stop mode. While, unplug the AC cord when the Pinch Roller Block is on the position of **Fig. 1-4-A**.
2. Move the Idler Ass'y from the T Reel.
3. Install the Torque Gauge **(JG002E)** and Adapter **(JG002B)** on the T reel. Turn the Torque Gauge **(JG002E)** counterclockwise.
4. Then, confirm that it indicates 30~50gf•cm.

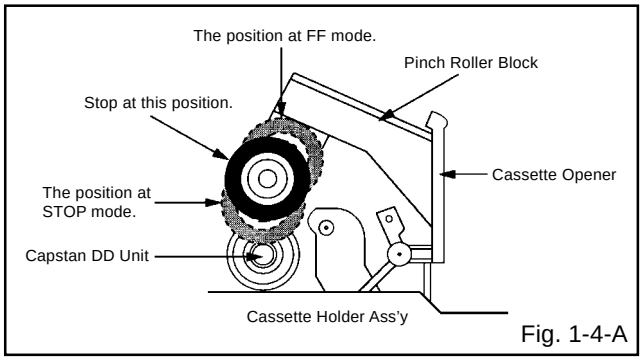


Fig. 1-4-A

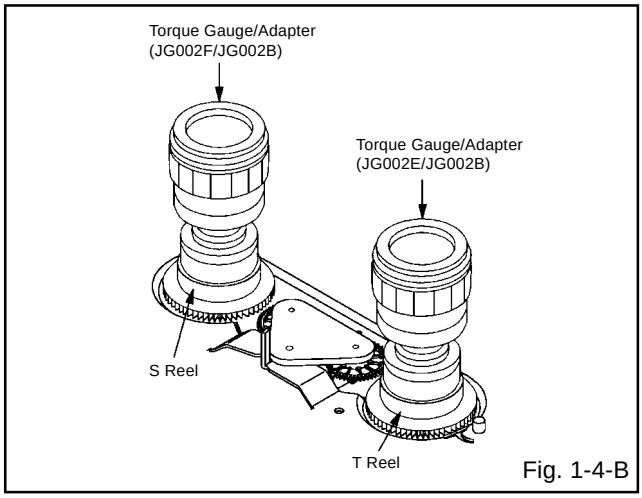


Fig. 1-4-B

NOTE

If the torque is out of the range, replace the following parts.

Check item	Replacement Part
1-4	Idler Ass'y/Clutch Ass'y
1-5	S Reel side: S Reel/Tension Band/Tension Connect/Tension Arm Ass'y T Reel side: T Reel/T Brake Band//T Brake Spring/T Brake Arm

2. CONFIRMATION AND ADJUSTMENT OF TAPE RUNNING MECHANISM

Tape Running Mechanism is adjusted precisely at the factory. Adjustment is not necessary as usual. When you replace the parts of the tape running mechanism because of long term usage or failure, the confirmation and adjustment are necessary.

2-1: GUIDE ROLLER

1. Playback the VHS Alignment Tape **(JG001C or JG001E)**. **(Refer to SERVICING FIXTURE AND TOOLS)**
2. Connect CH-1 of the oscilloscope to **TP103 (Envelope)** and CH-2 to **TP102 (SW Pulse)**.
3. Press and hold the Tracking-Auto button on the remote control more than 2 seconds to set tracking to center.
4. Trigger with SW Pulse and observe the envelope. **(Refer to Fig. 2-1-A)**
5. When observing the envelope, adjust the Adjusting Driver **(JG005)** slightly until the envelope will be flat. Even if you press the Tracking Button, adjust so that flatness is not moved so much.
6. Adjust so that the A : B ratio is better than 3 : 2 as shown in **Fig. 2-1-B**, even if you press the Tracking Button to move the envelope (The envelope waveform will begin to decrease when you press the Tracking Button).
7. Adjust the PG shifter during playback. **(Refer to the ELECTRICAL ADJUSTMENTS)**

NOTE

After adjustment, confirm and adjust A/C head. **(Refer to item 2-2)**

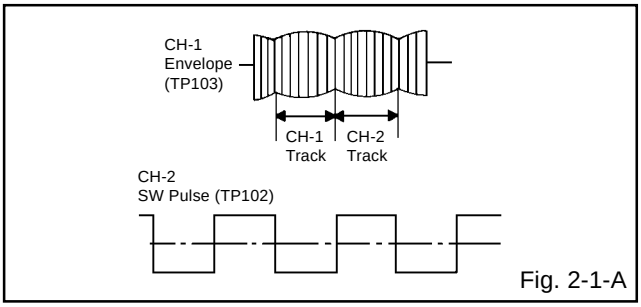


Fig. 2-1-A

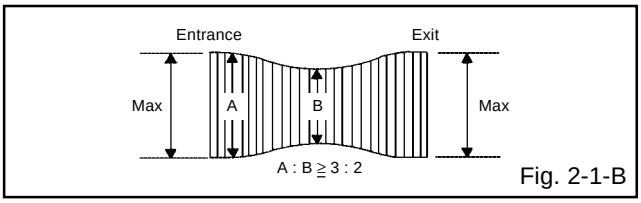


Fig. 2-1-B

MECHANICAL ADJUSTMENTS

2-2: CONFIRMATION AND ADJUSTMENT OF AUDIO/ CONTROL HEAD

When the Tape Running Mechanism does not work well, adjust the following items.

1. Playback the VHS Alignment Tape **(JG001C or JG001E)**. **(Refer to SERVICING FIXTURE AND TOOLS)**
2. Confirm that the reflected picture of stamp mark is appeared on the tape prior to P4 Post as shown in **Fig. 2-2-A**.
   a) When the reflected picture is distorted, turn the screw ① clockwise until the distortion is disappeared.
   b) When the reflected picture is not distorted, turn the screw ① counterclockwise until little distortion is appeared, then adjust the a).
3. Turn the screw ② to set the audio level to maximum.
4. Confirm that the bottom of the Audio/ Control Head and the bottom of the tape is shown in **Fig. 2-2-C**.
   c) When the height is not correct, turn the screw ③ to adjust the height. Then, adjust the 1~3 again.

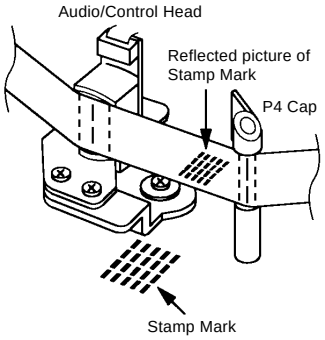


Fig. 2-2-A

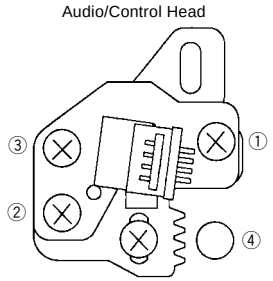


Fig. 2-2-B

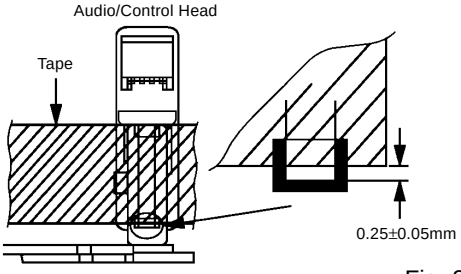


Fig. 2-2-C

2-3: TAPE RUNNING ADJUSTMENT (X VALUE ADJUSTMENT)

1. Confirm and adjust the height of the Reel Disk. **(Refer to item 1-1)**
2. Confirm and adjust the position of the Tension Post. **(Refer to item 1-2)**
3. Adjust the Guide Roller. **(Refer to item 2-1)**
4. Confirm and adjust the Audio/Control Head. **(Refer to item 2-2)**
5. Connect CH-1 of the oscilloscope to **TP102**, CH-2 to **TP103** and CH-3 to **HOT side of Audio Out Jack**.
6. Playback the VHS Alignment Tape **(JG001U or JG001V)**. **(Refer to SERVICING FIXTURE AND TOOLS)**
7. Press and hold the Tracking-Auto button on the remote control more than 2 seconds to set tracking to center.
8. Set the X Value adjustment driver **(JG153)** to the ④ of **Fig. 2-2-B**. Adjust X value so that the envelope waveform output becomes maximum. Check if the relation between Audio and Envelope waveform becomes (1) or (2) of **Fig. 2-3**.

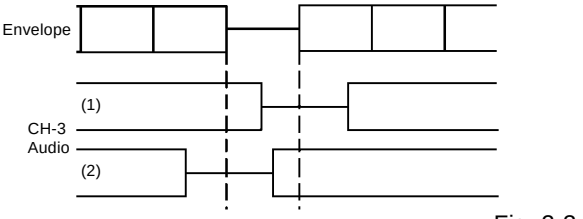


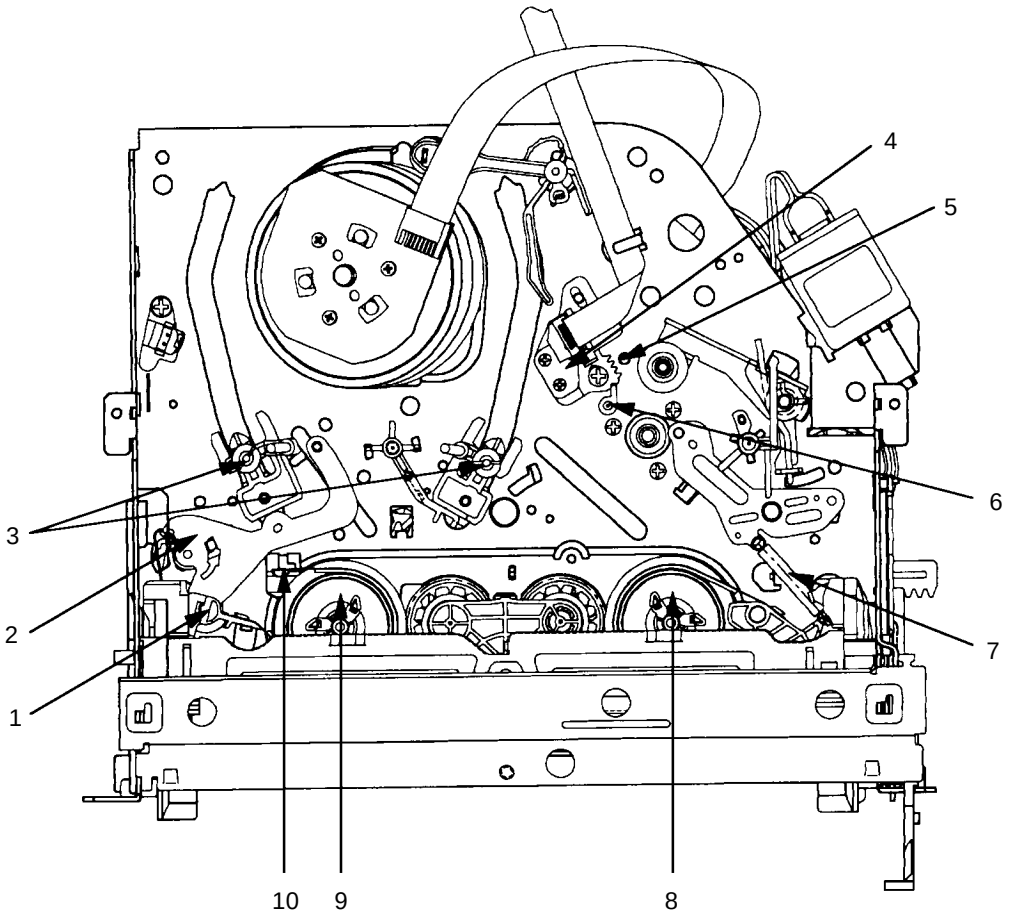
Fig. 2-3

2-4: CONFIRM HI-FI AUDIO (Hi-Fi model only)

1. Connect CH-1 of the oscilloscope to **TP102** and CH-2 to the **Hi-Fi Audio Out Jack**.
2. Playback the VHS Alignment Tape **(JG001R)**. **(Refer to SERVICING FIXTURE AND TOOLS)**
3. Press and hold the Tracking-Auto button on the remote control more than 2 seconds to set tracking to center.
4. Press the Tracking Up button and count number of steps which the audio output is changed from Hi-Fi (400Hz) to MONO (6KHz).
5. Press and hold the Tracking-Auto button on the remote control more than 2 seconds to set tracking to center.
6. Press the Tracking Down button and count number of steps which the audio output is changed from Hi-Fi (400Hz) to MONO (6KHz).
7. If the difference are more than 3 steps, set the X Value adjustment driver **(JG153)** to ④ of **Fig. 2-2-B**. Change the X Value and adjust it so that the value becomes within 2 steps.

MECHANICAL ADJUSTMENTS

3. MECHANISM ADJUSTMENT PARTS LOCATION GUIDE



1. Tension Connect
2. Tension Arm
3. Guide Roller
4. Audio/Control Head
5. X value adjustment driver hole
6. P4 Post
7. T Brake Spring
8. T Reel
9. S Reel
10. Adjusting section for the Tension Arm position

ELECTRICAL ADJUSTMENTS

Read and perform this adjustment when repairing the circuits or replacing electrical parts or PCB assemblies.

1. BASIC ADJUSTMENT

CAUTION

- When you exchange IC and Transistor for a heat sink, apply the silicon grease **(YG6260M)** on the contact section of the heat sink. Before applying new silicon grease, remove all the old silicon grease. (Old grease may cause damages to the IC and Transistor.)

1-1: PG SHIFTER

CONDITIONS

MODE-PLAYBACK
Input Signal-Alignment Tape **(JG001E)**

INSTRUCTIONS

1. Connect CH-1 on the oscilloscope to **TP102** and CH-2 to **J8001**.
2. Playback the alignment tape. **(JG001E)**
3. Press and hold the Tracking-Auto button on the remote control more than 2 seconds to set tracking to center.
4. Press both CH UP button on the set and the STOP button on the set for more than 2 seconds.

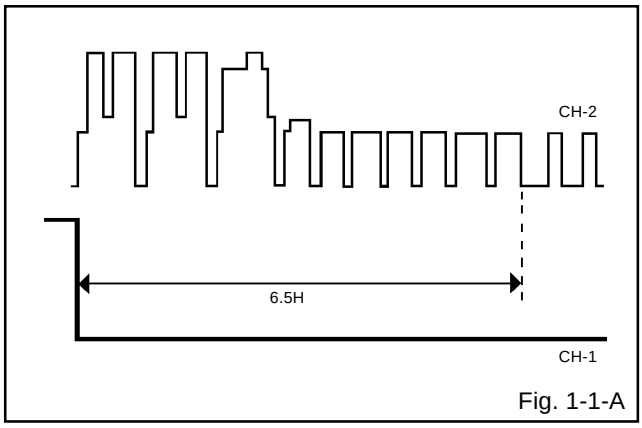


Fig. 1-1-A

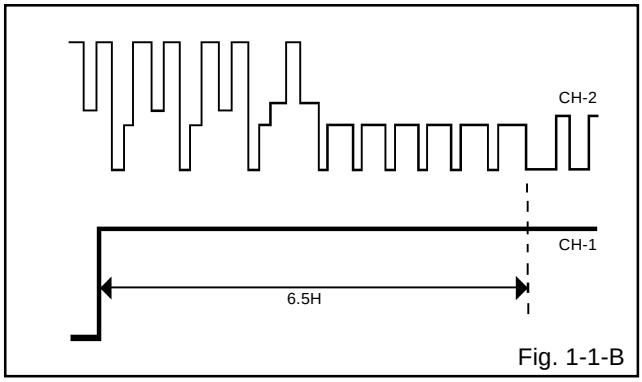
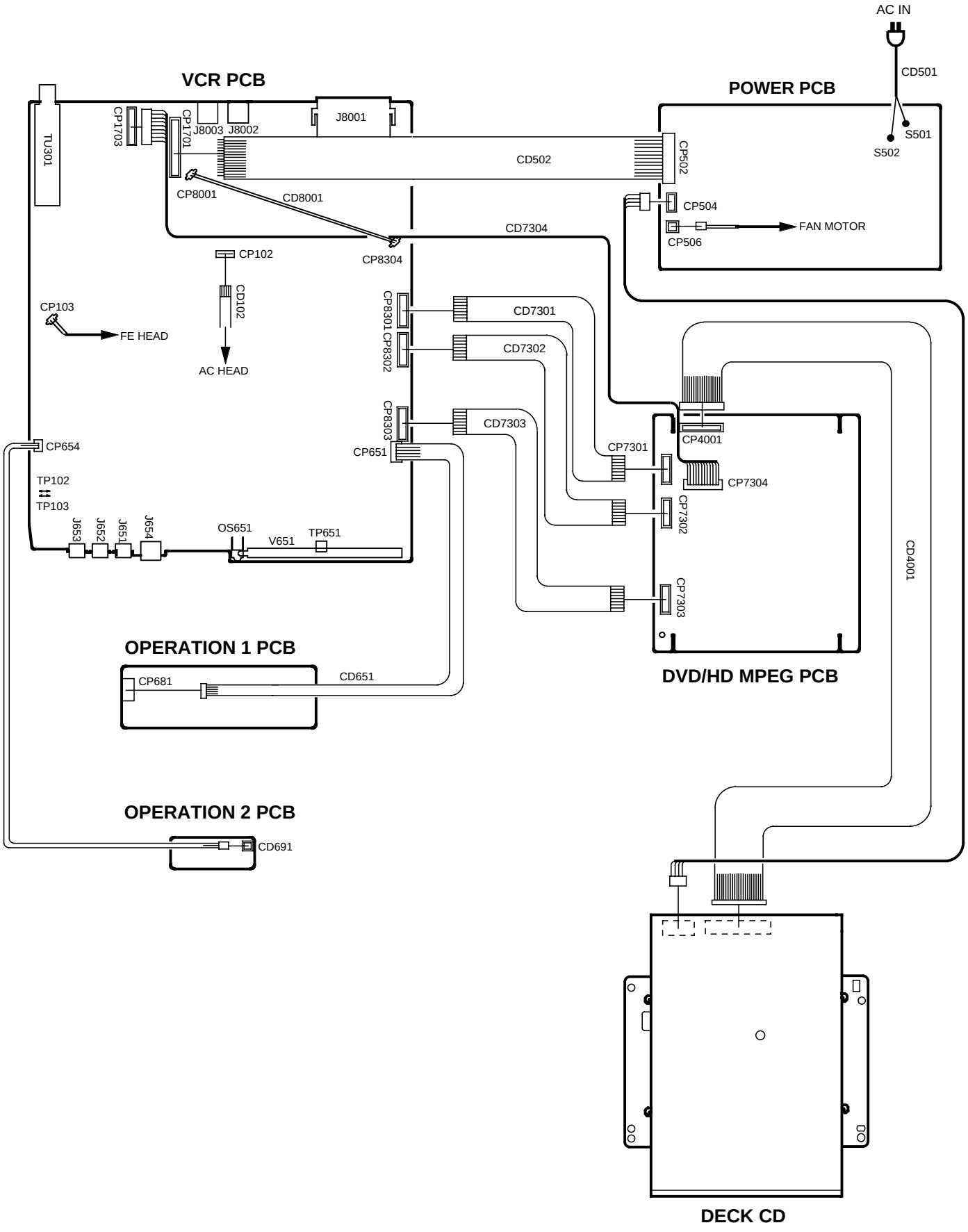


Fig. 1-1-B

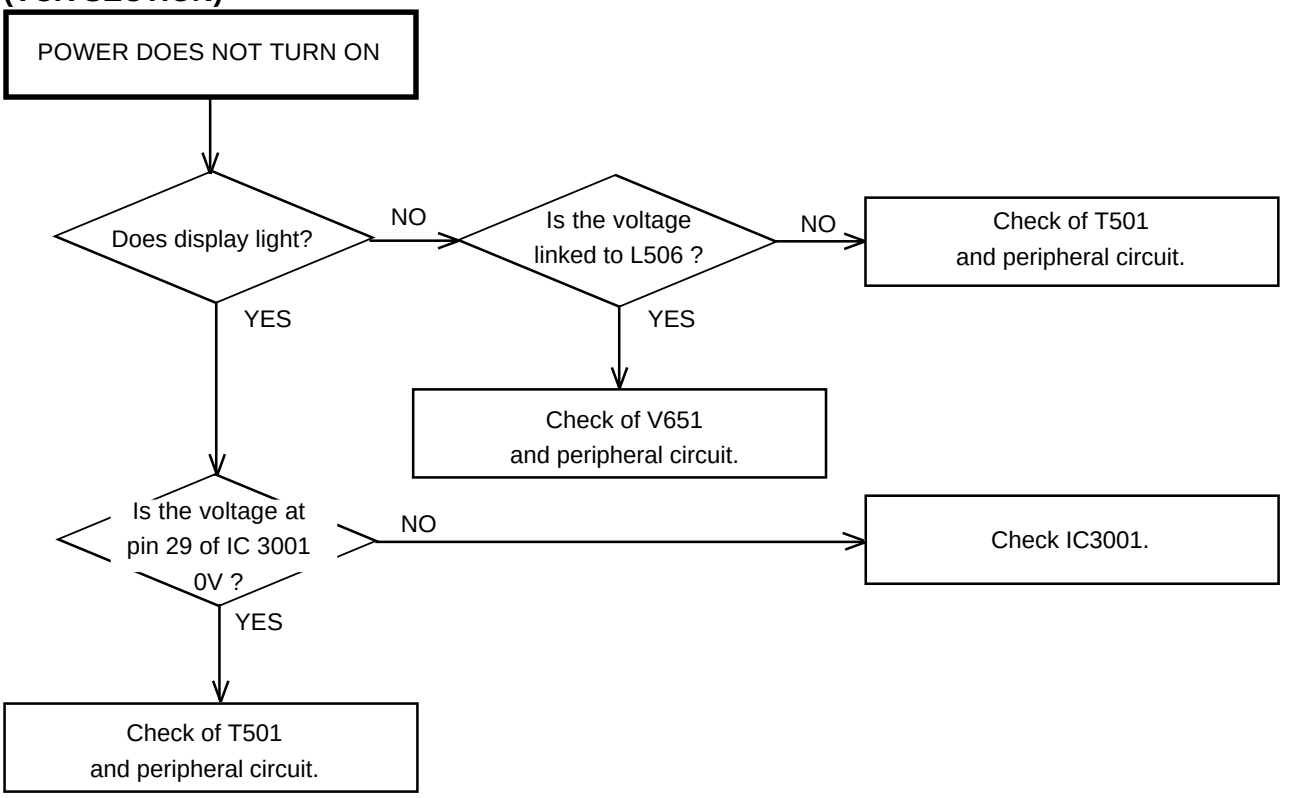
ELECTRICAL ADJUSTMENTS

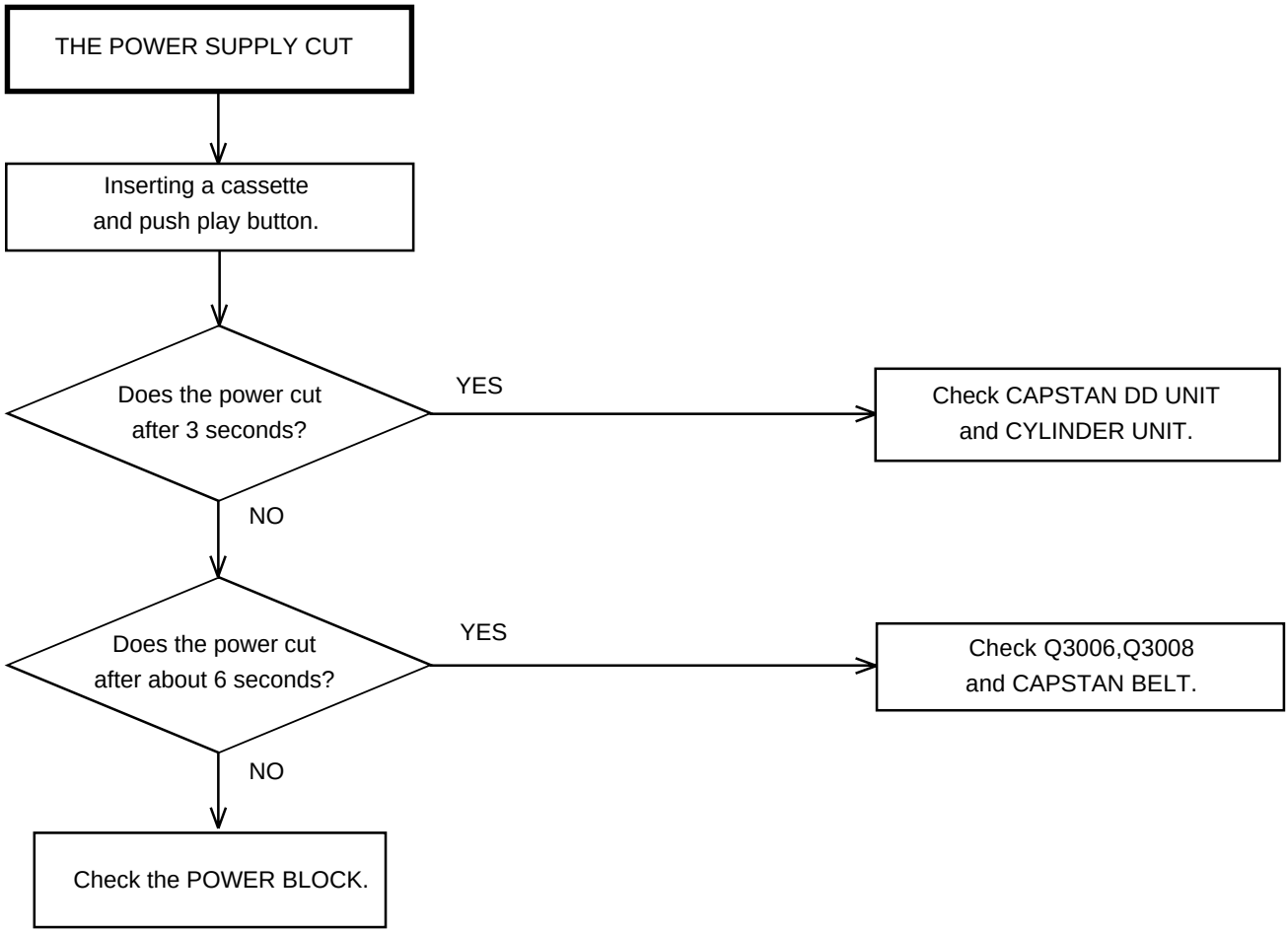
2. ELECTRICAL ADJUSTMENT PARTS LOCATION GUIDE (WIRING CONNECTION)



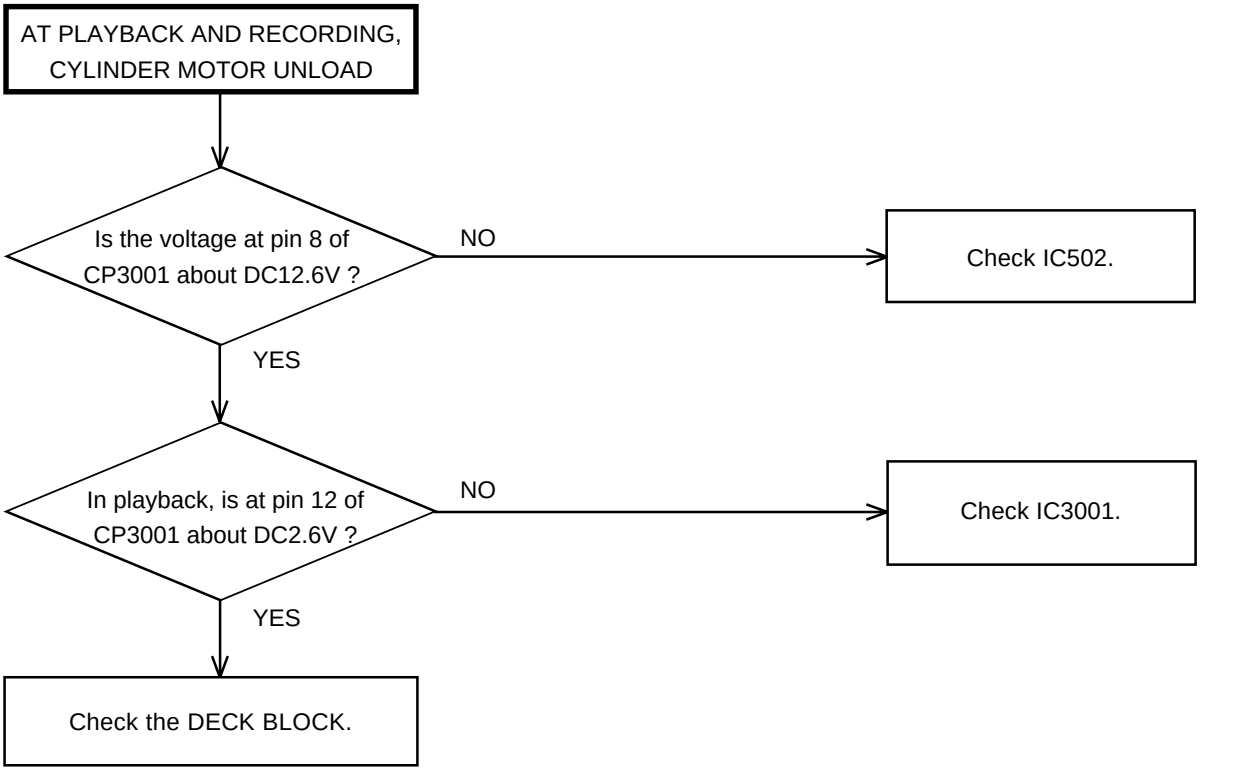
TROUBLESHOOTING GUIDE

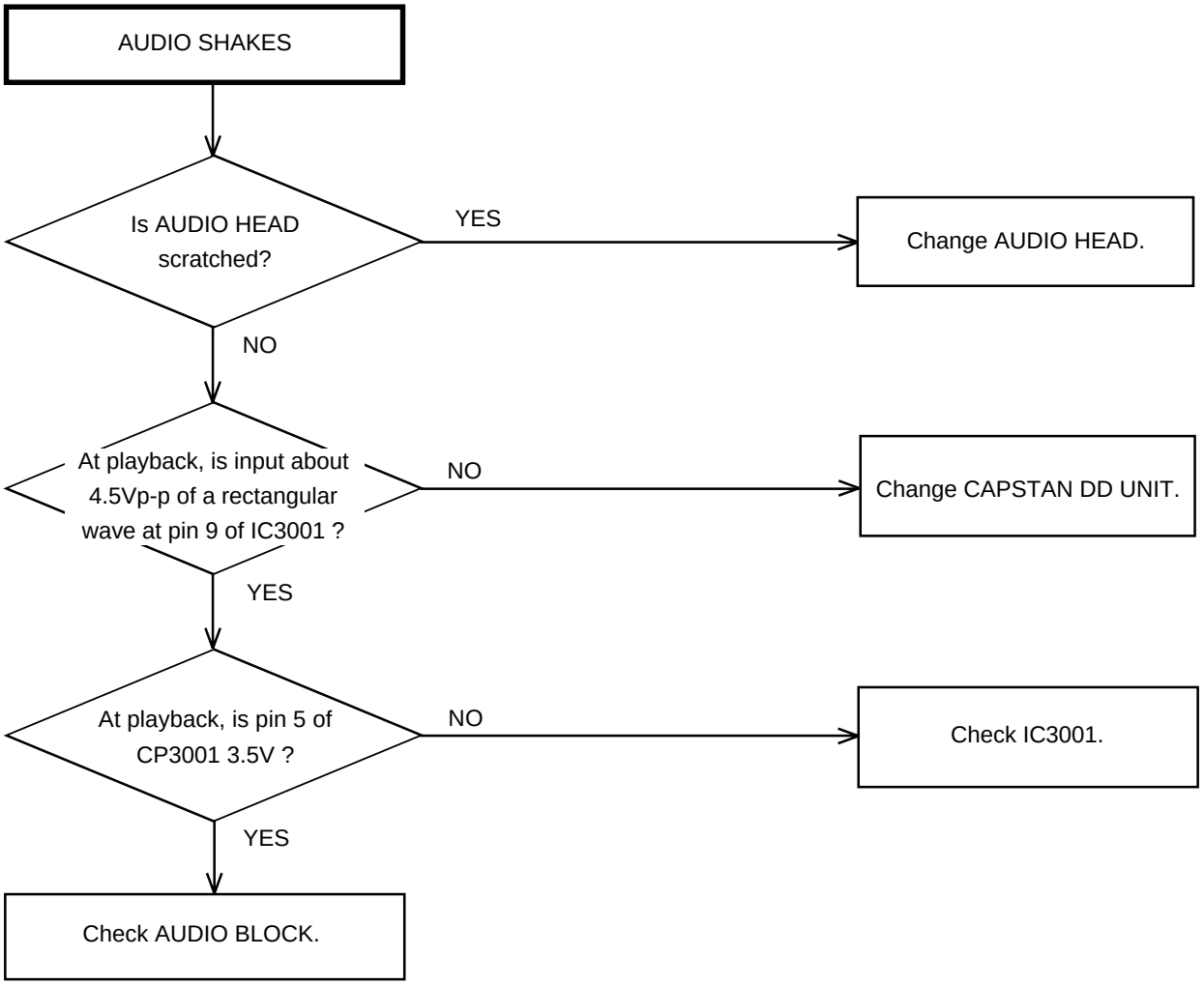
(VCR SECTION)



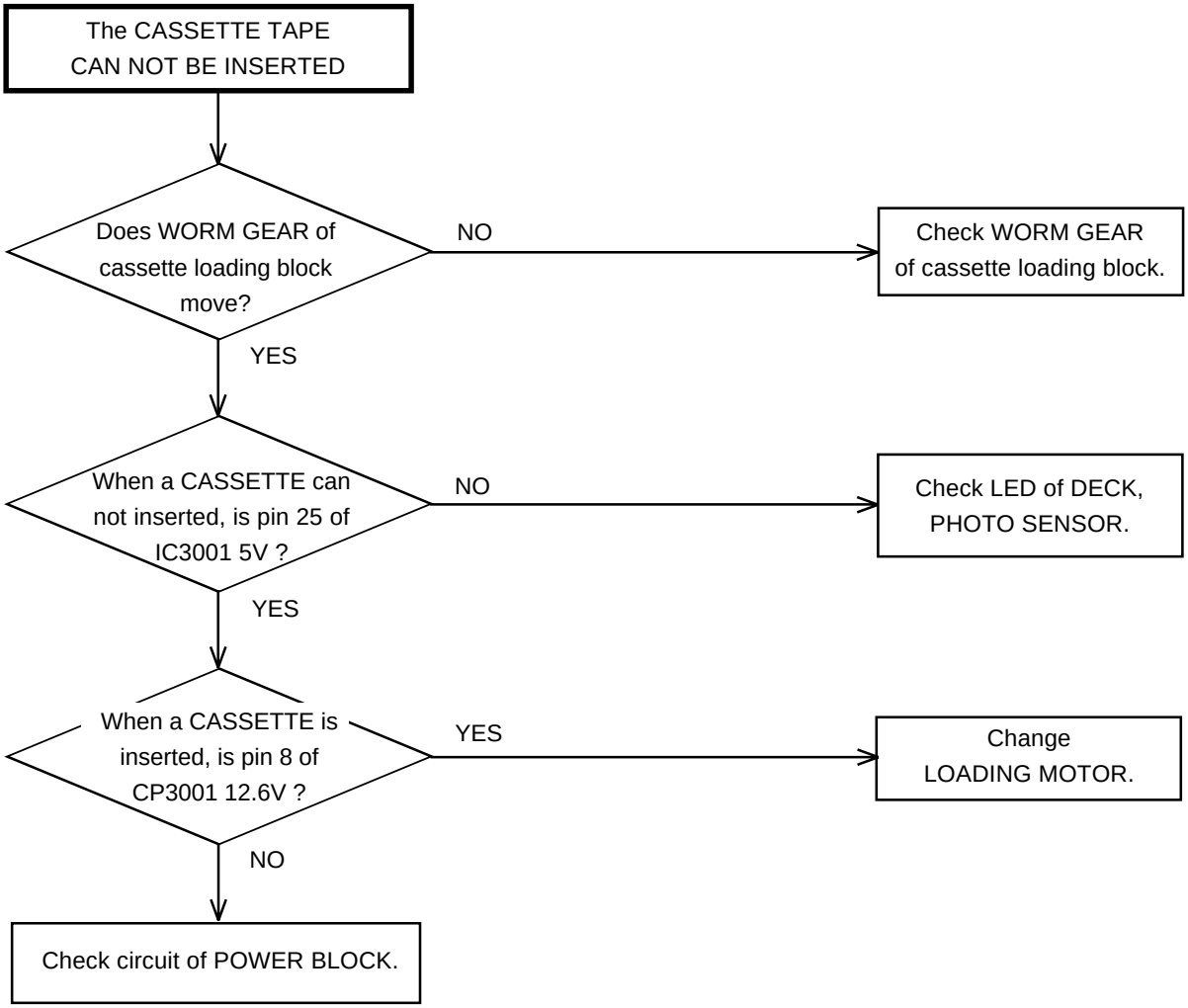


TROUBLESHOOTING GUIDE

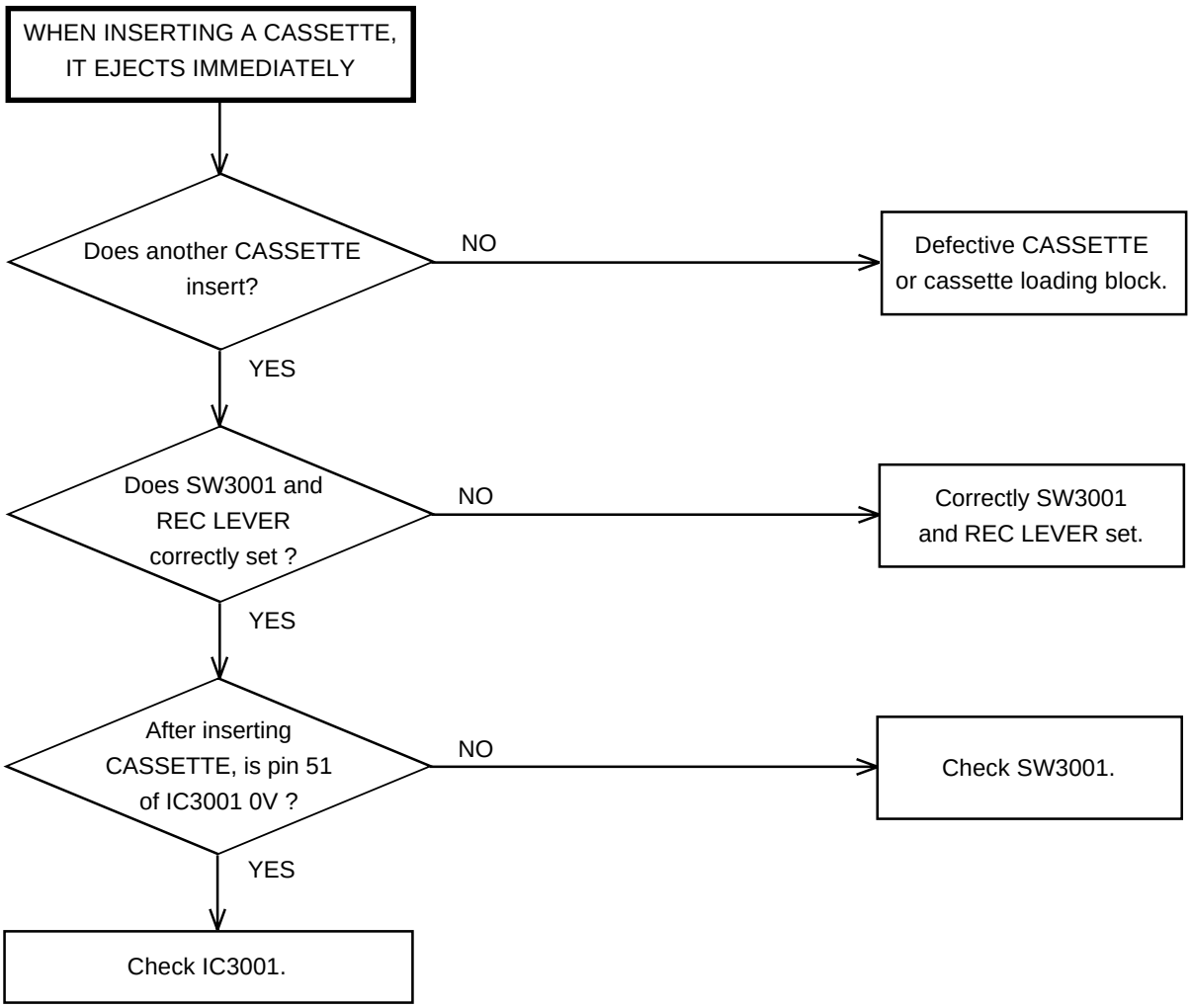


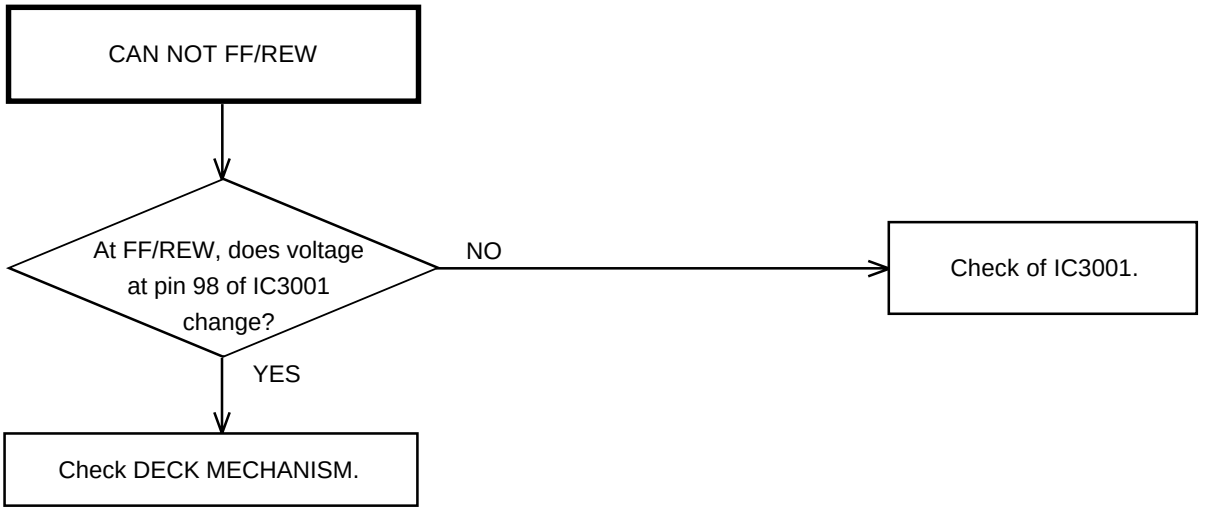


TROUBLESHOOTING GUIDE

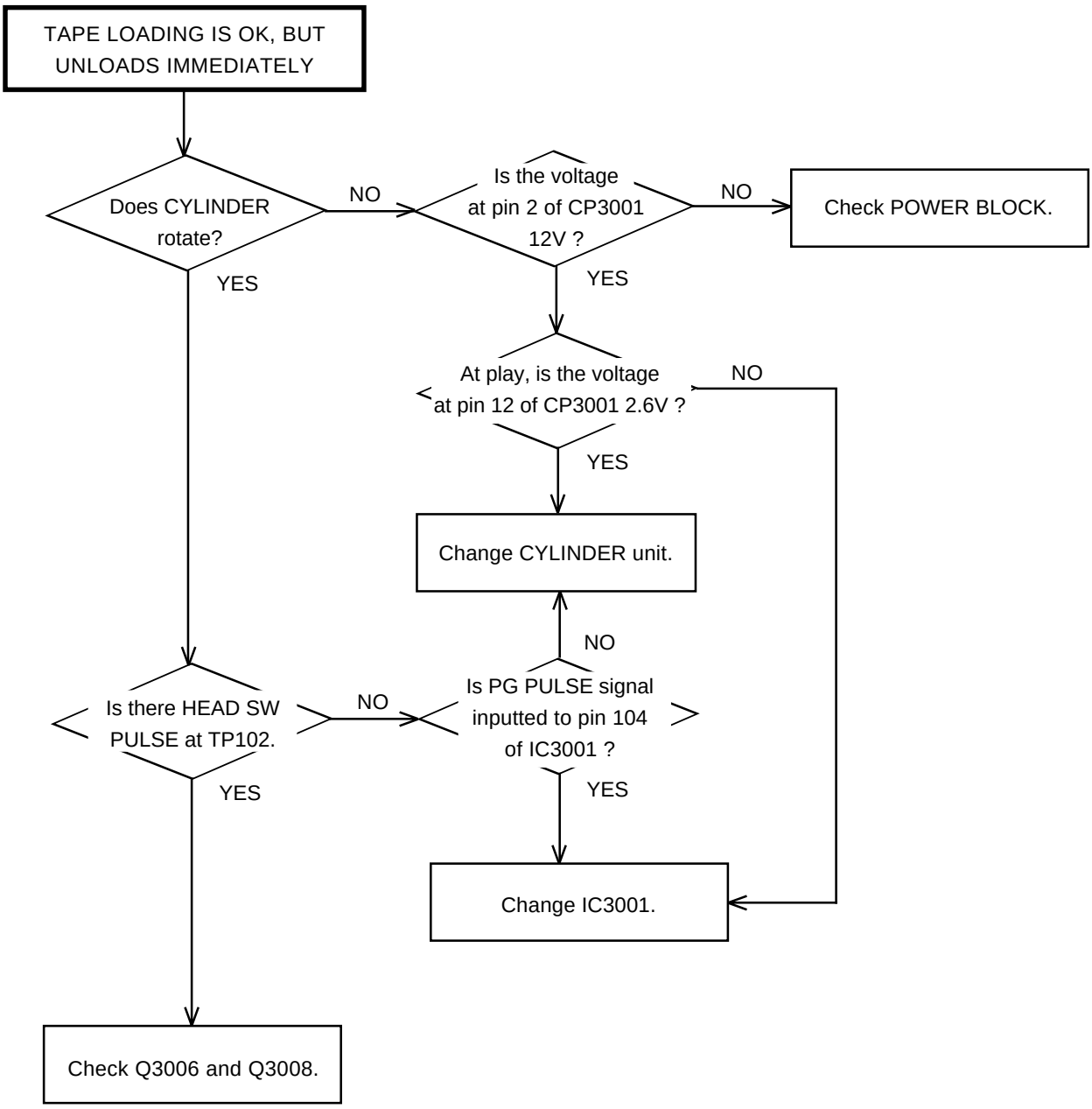


TROUBLESHOOTING GUIDE

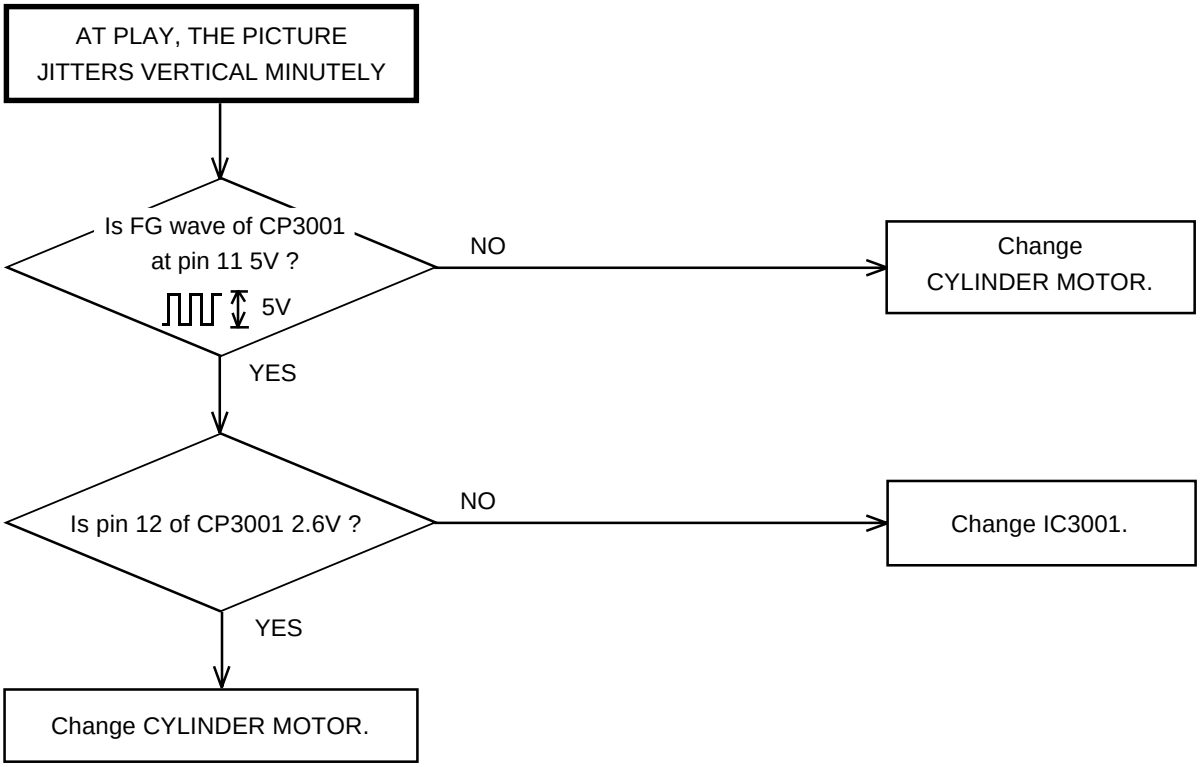


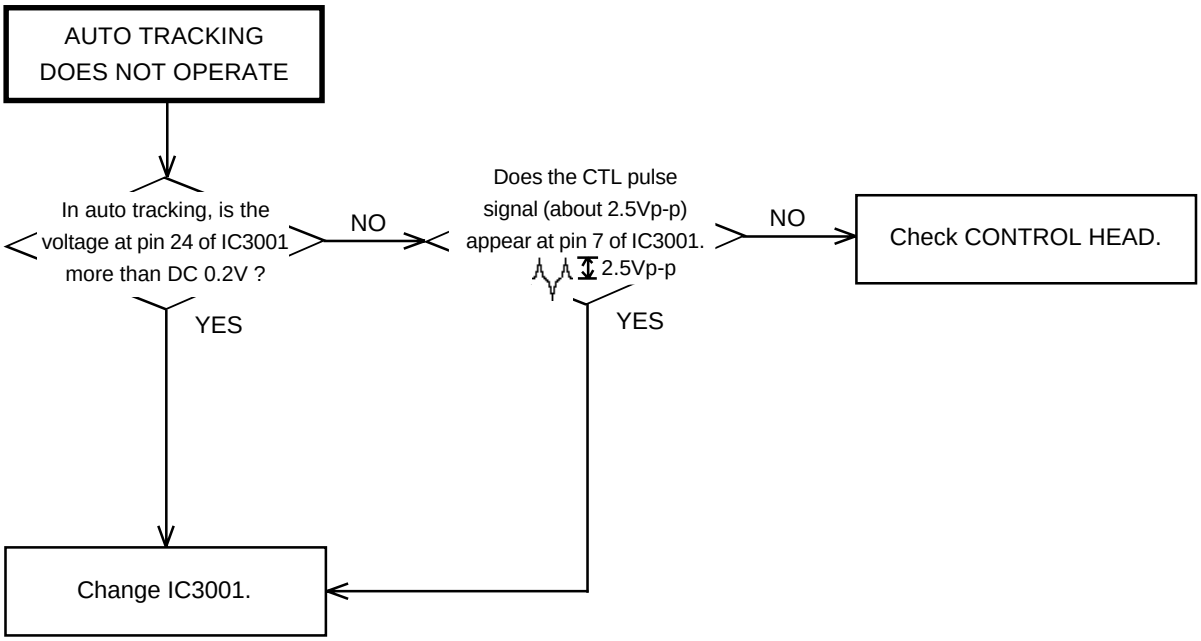


TROUBLESHOOTING GUIDE

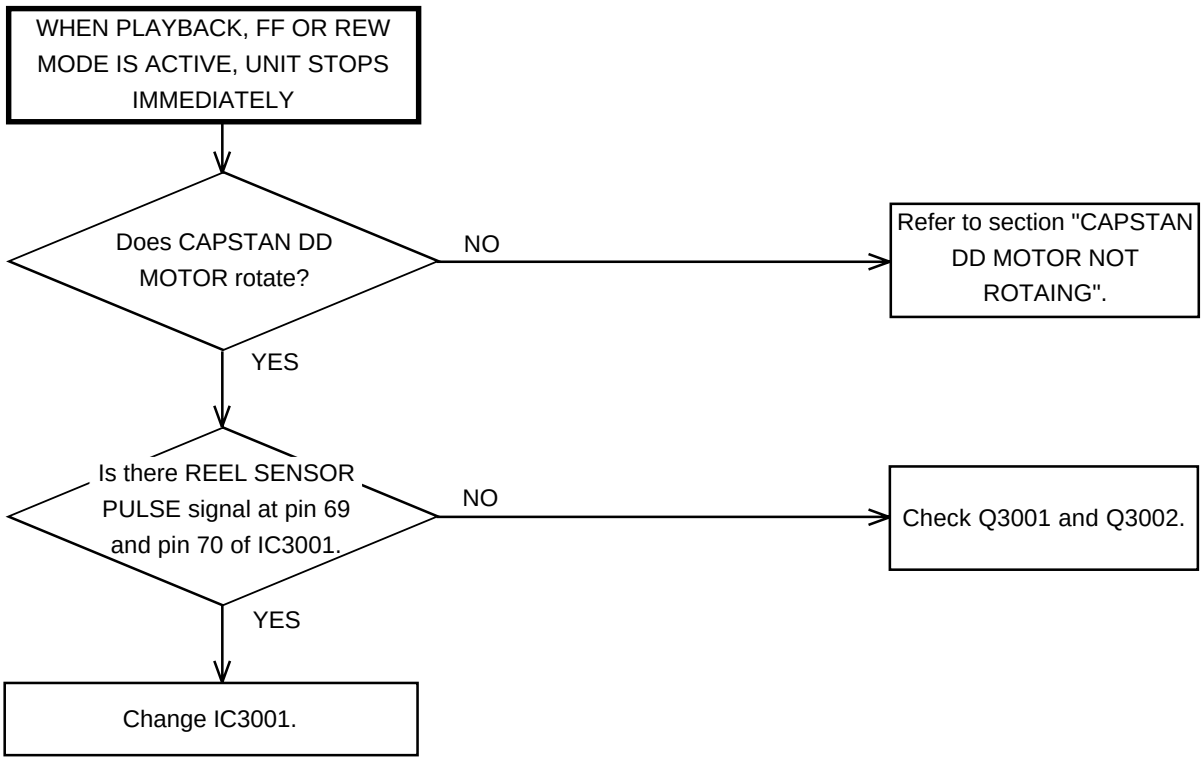


TROUBLESHOOTING GUIDE





TROUBLESHOOTING GUIDE



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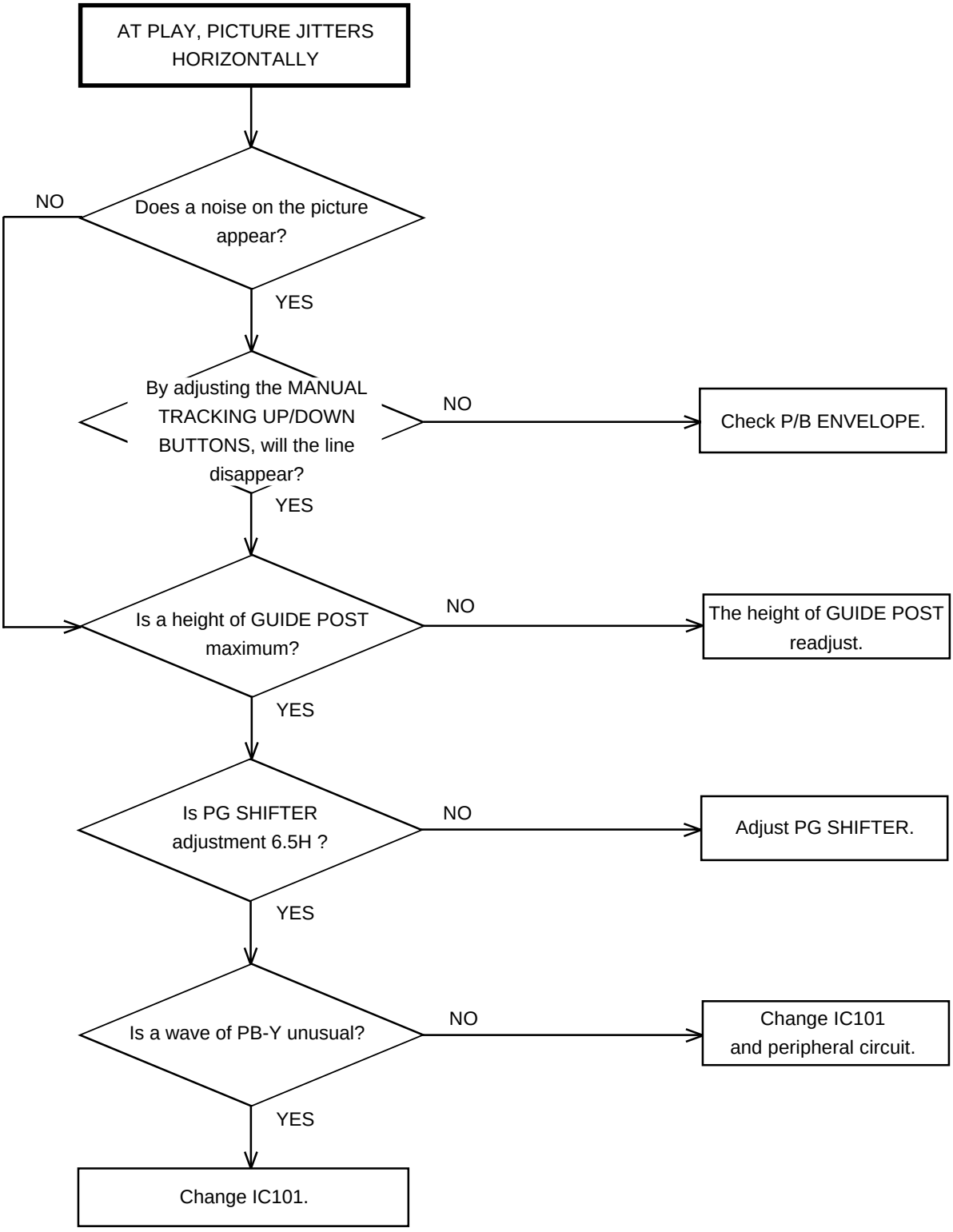
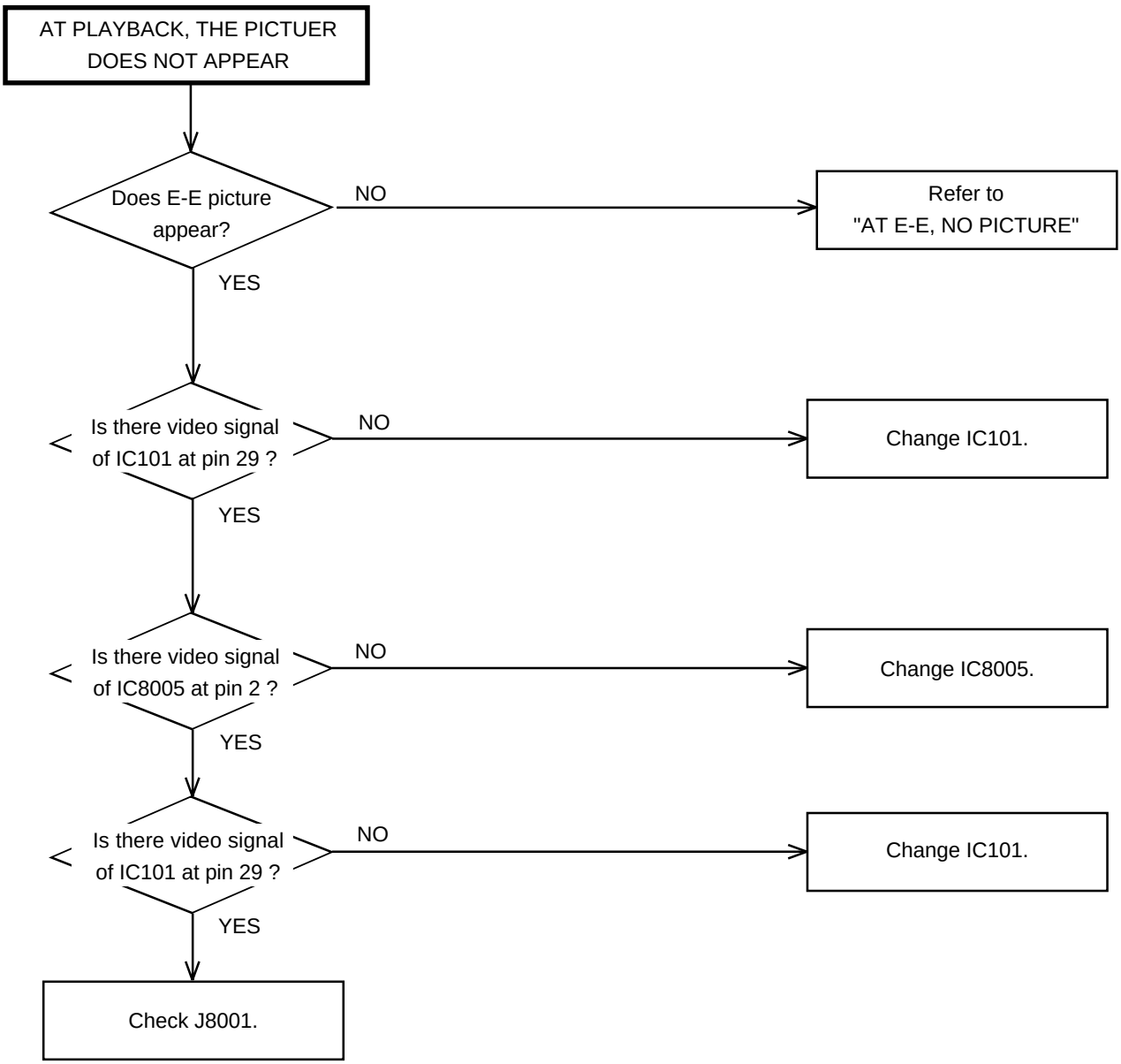


TROUBLESHOOTING GUIDE



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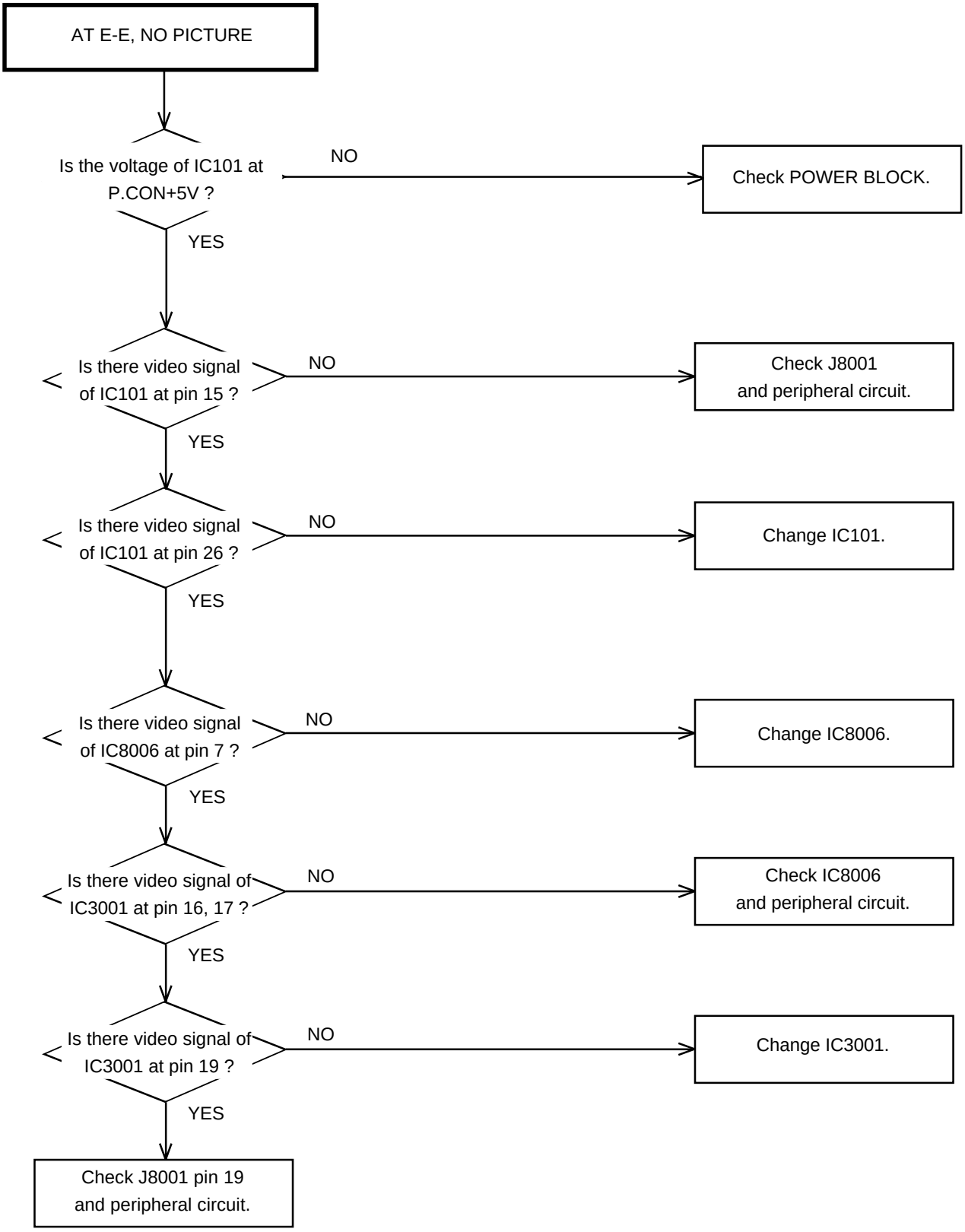
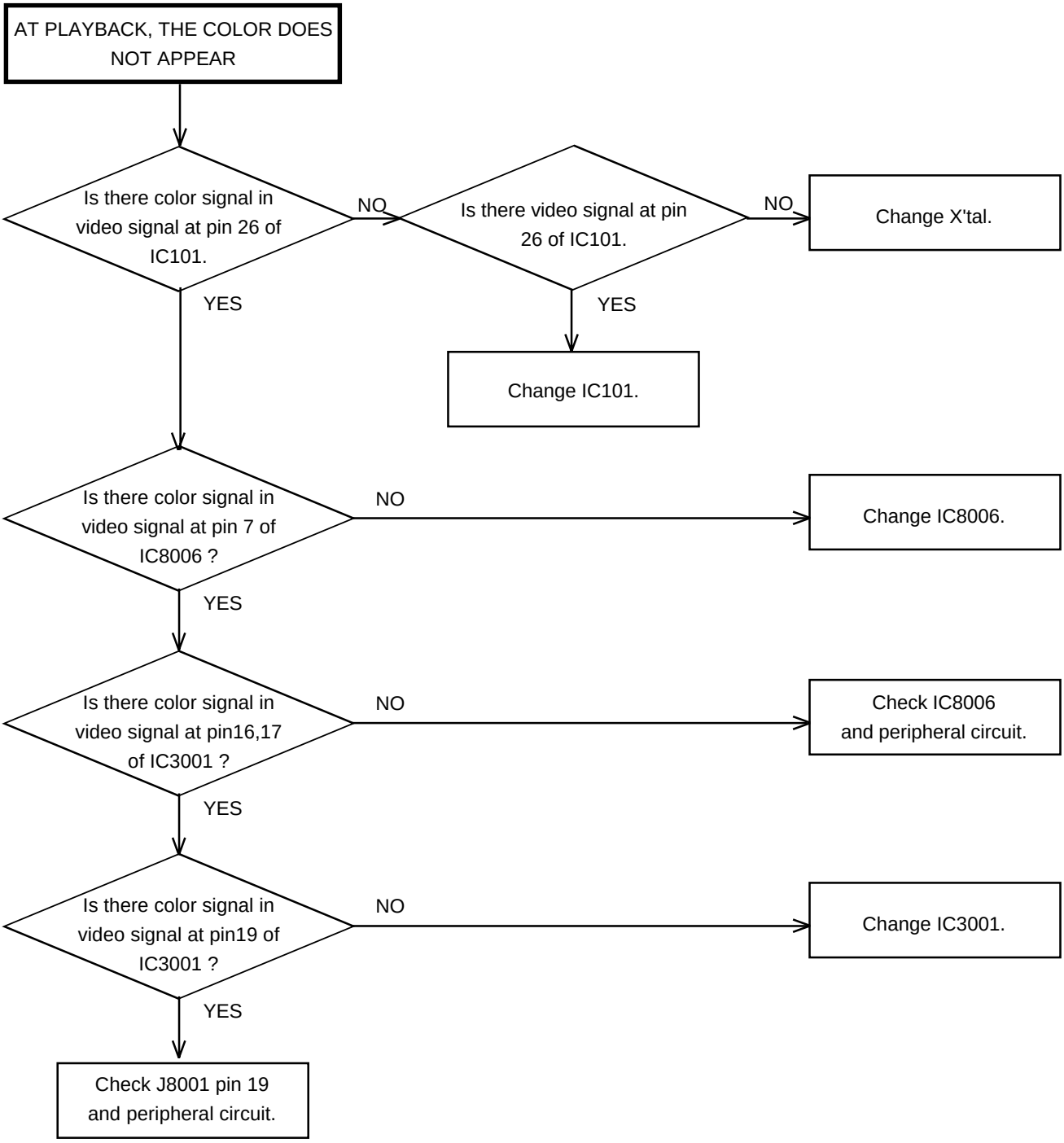
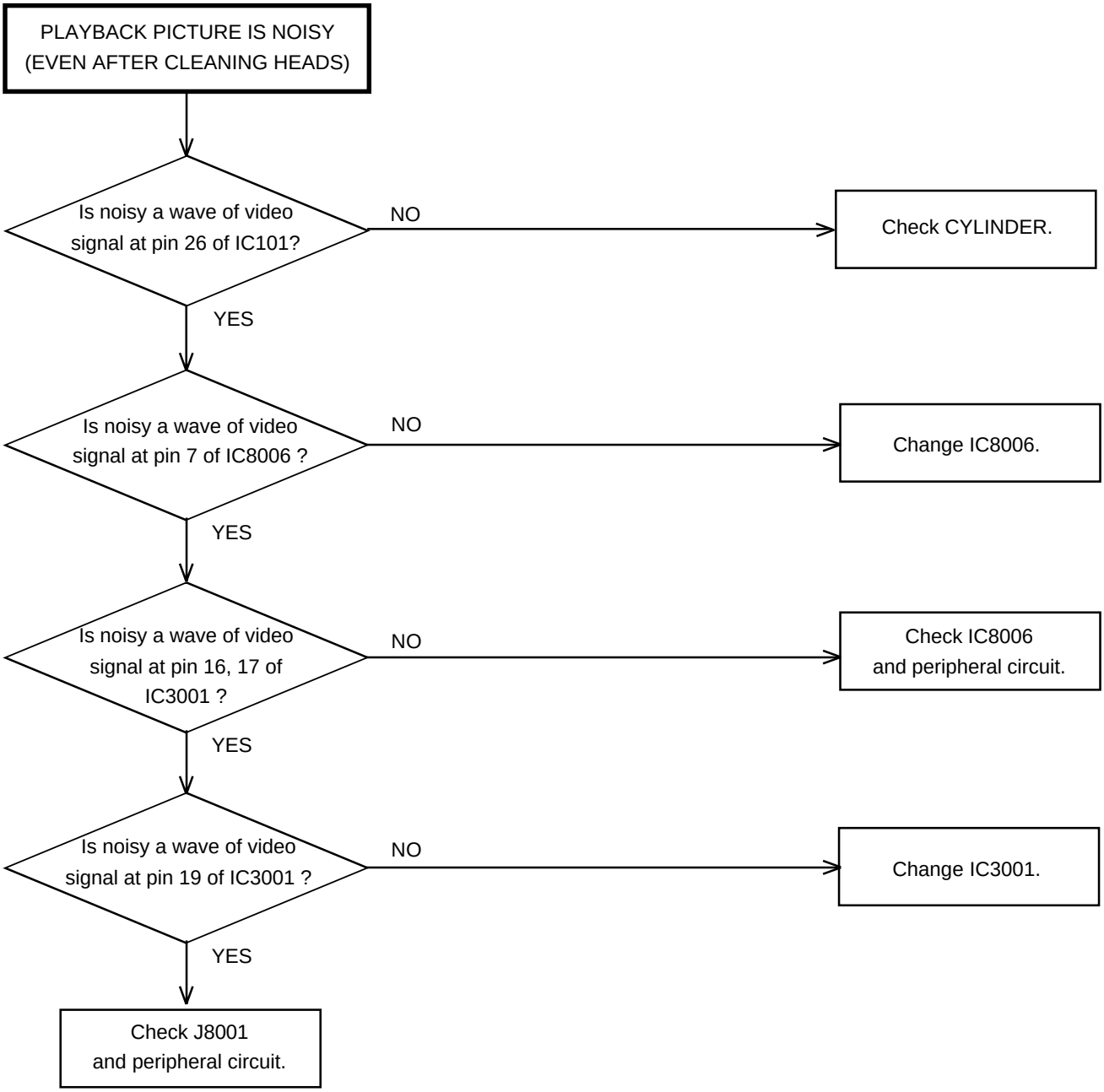


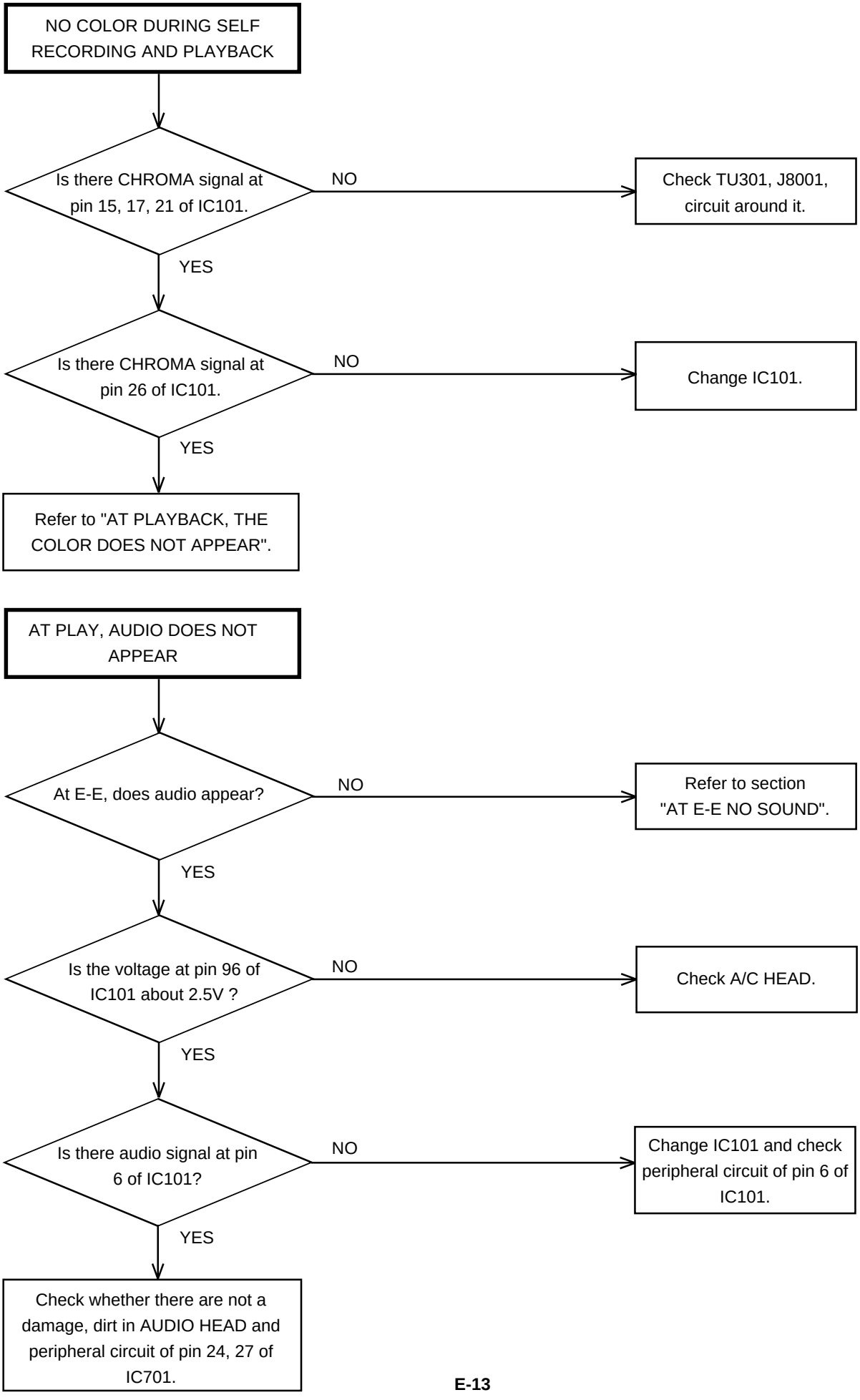
TROUBLESHOOTING GUIDE



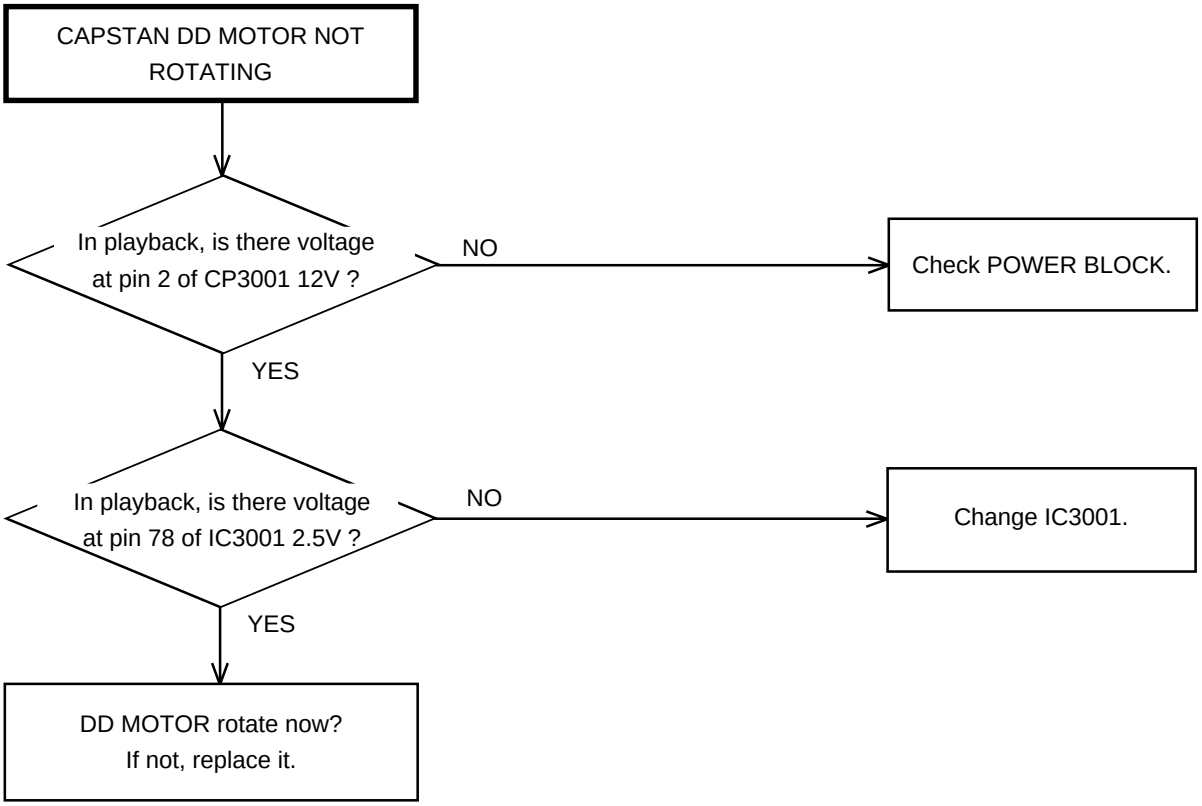
TROUBLESHOOTING GUIDE



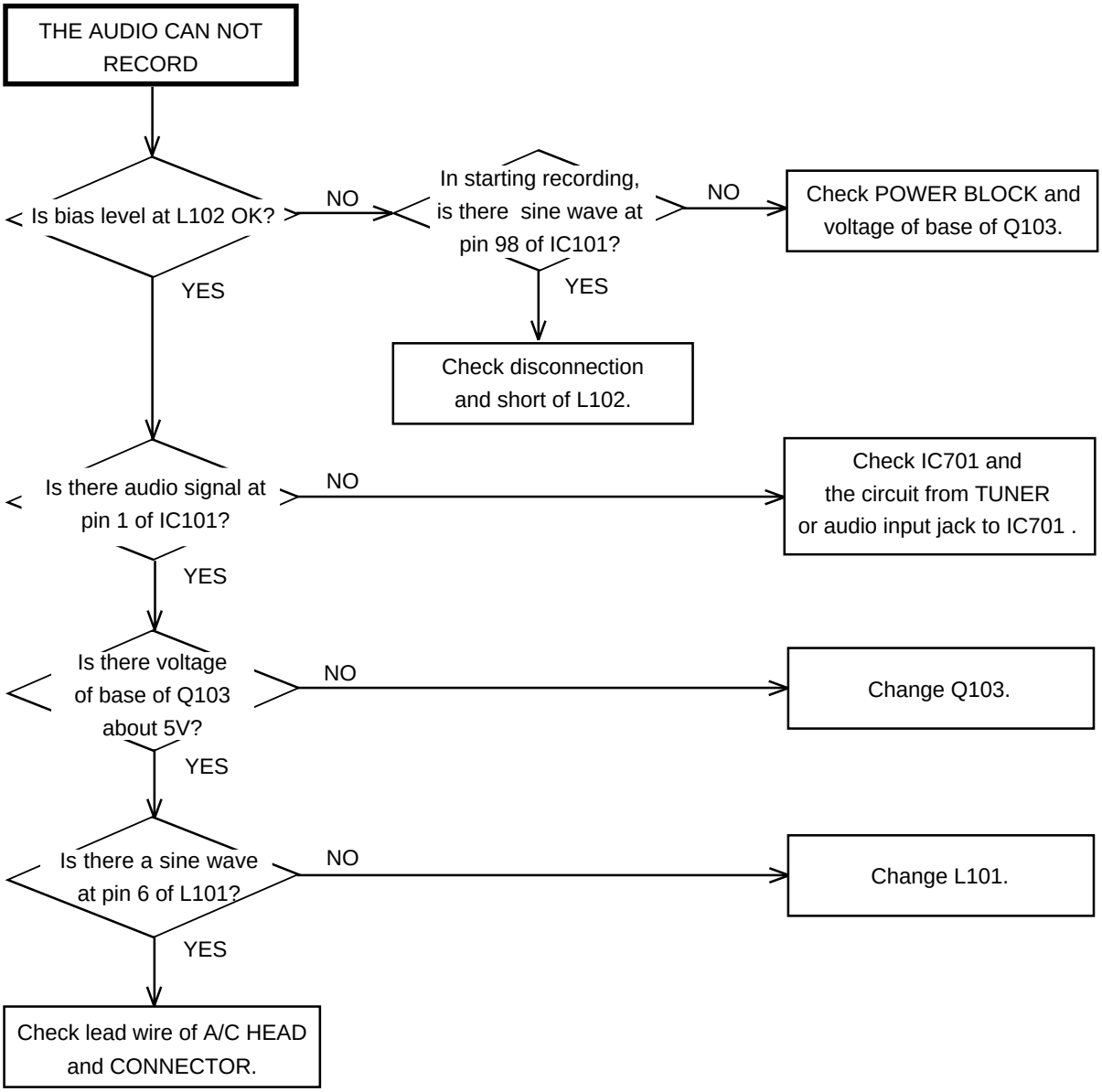
TROUBLESHOOTING GUIDE



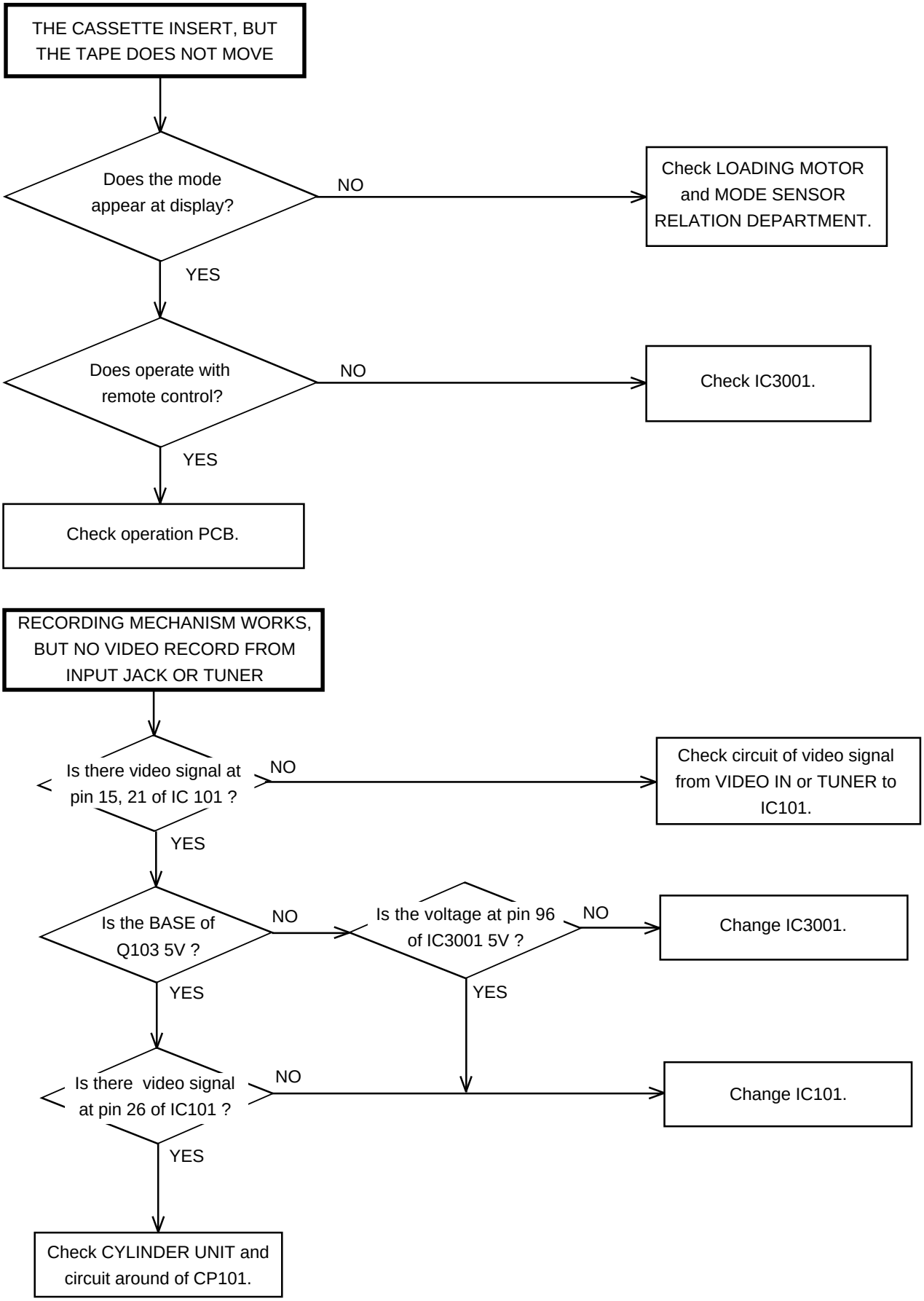
TROUBLESHOOTING GUIDE



TROUBLESHOOTING GUIDE



TROUBLESHOOTING GUIDE



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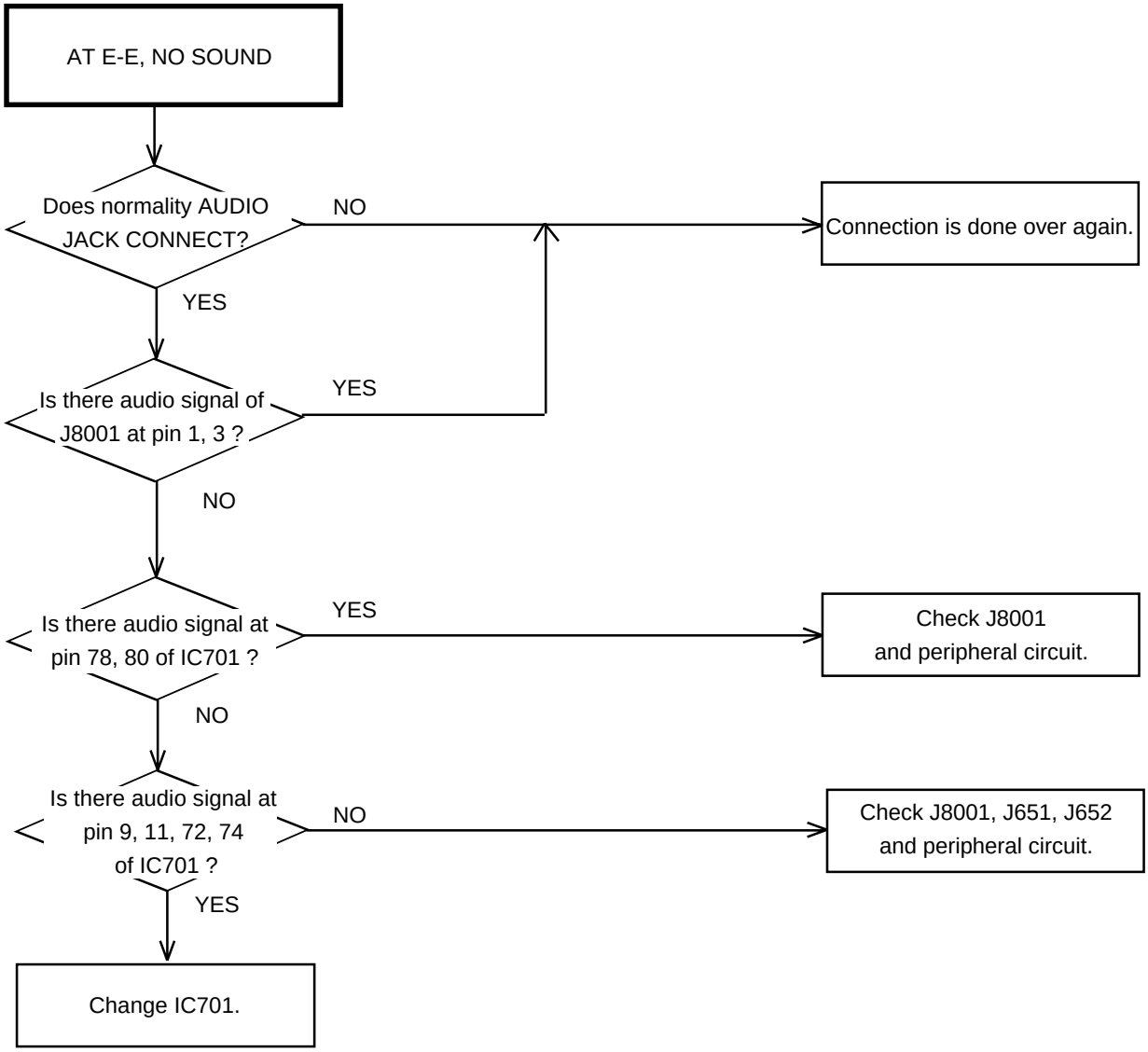
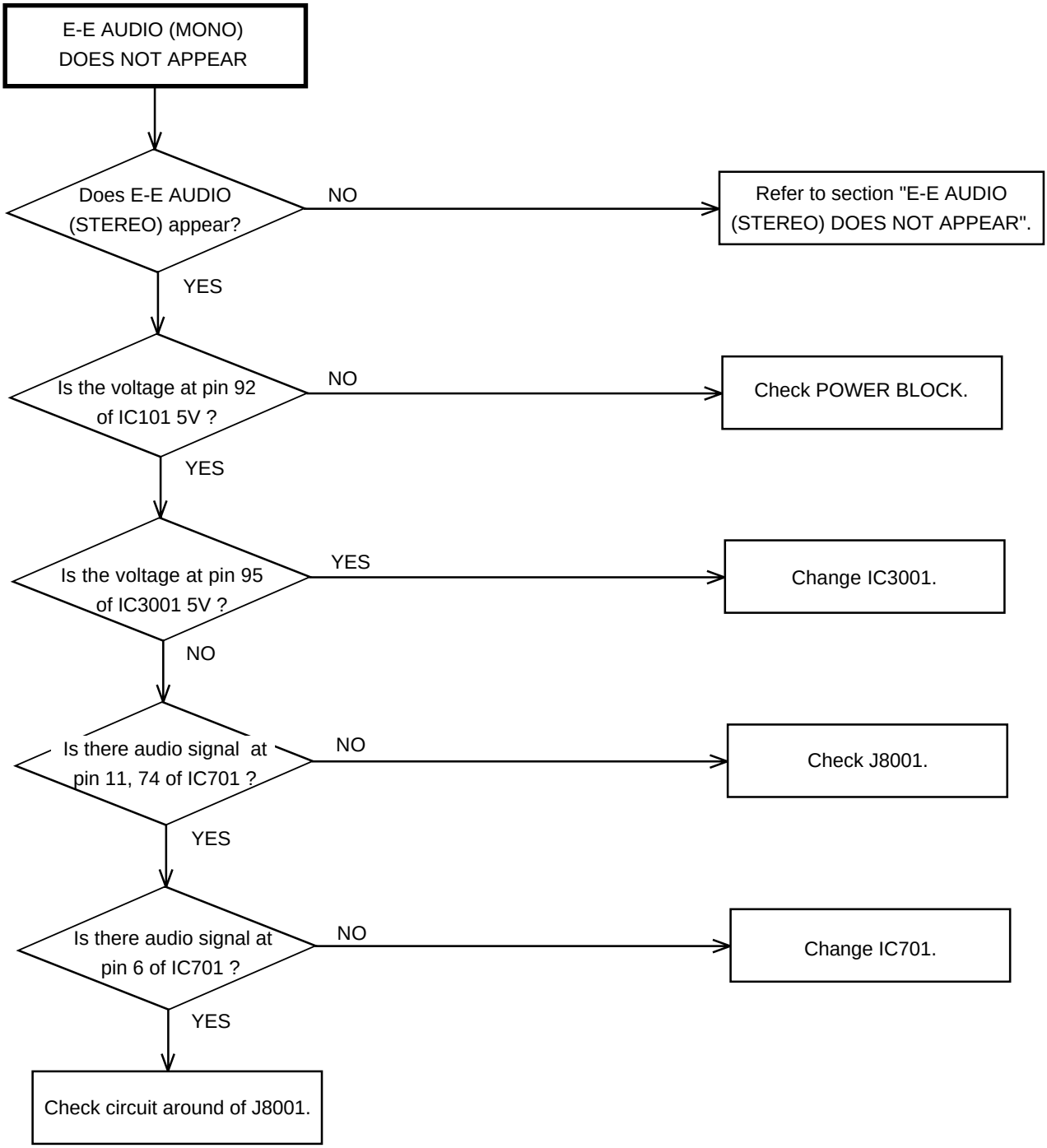
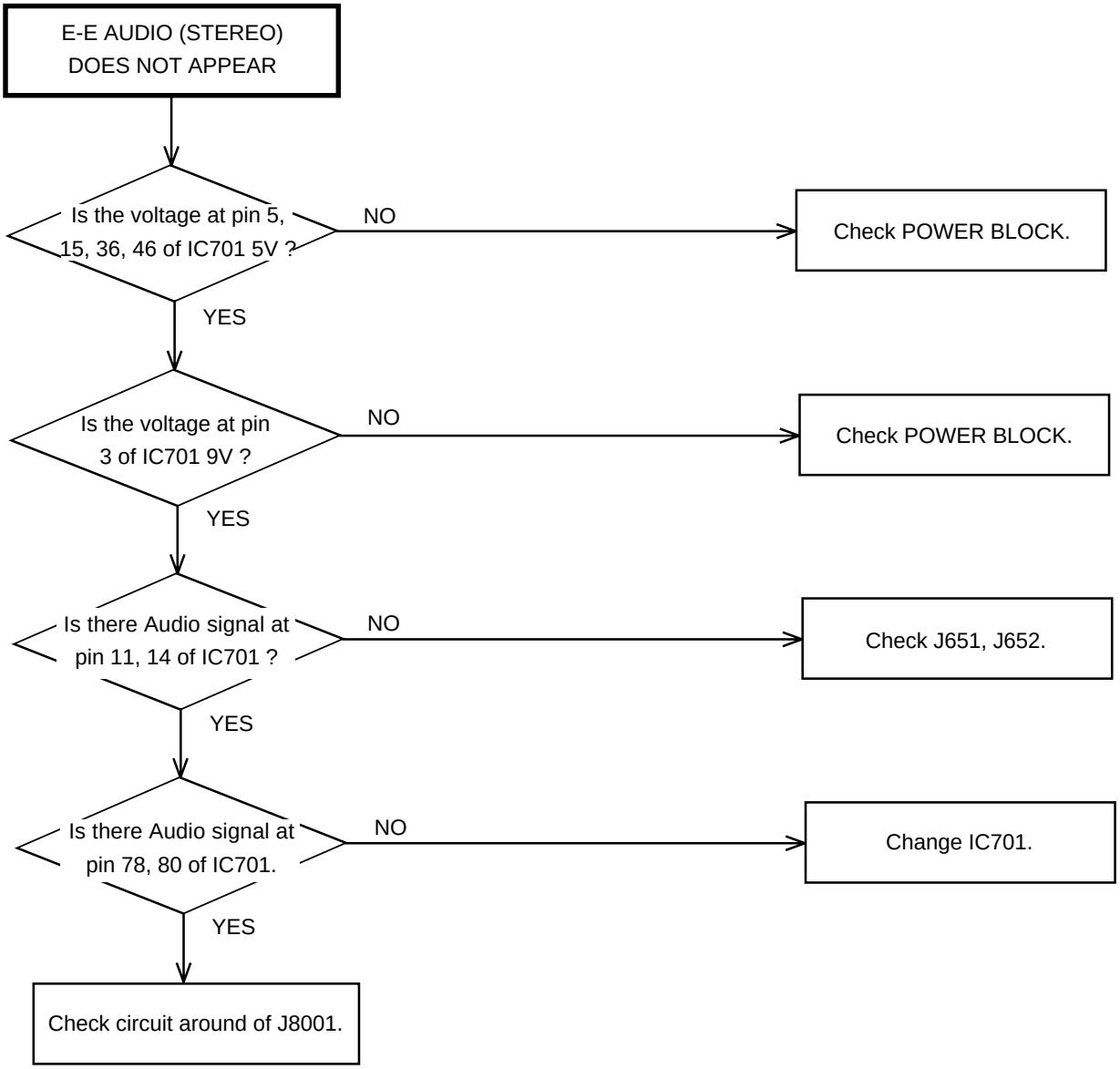


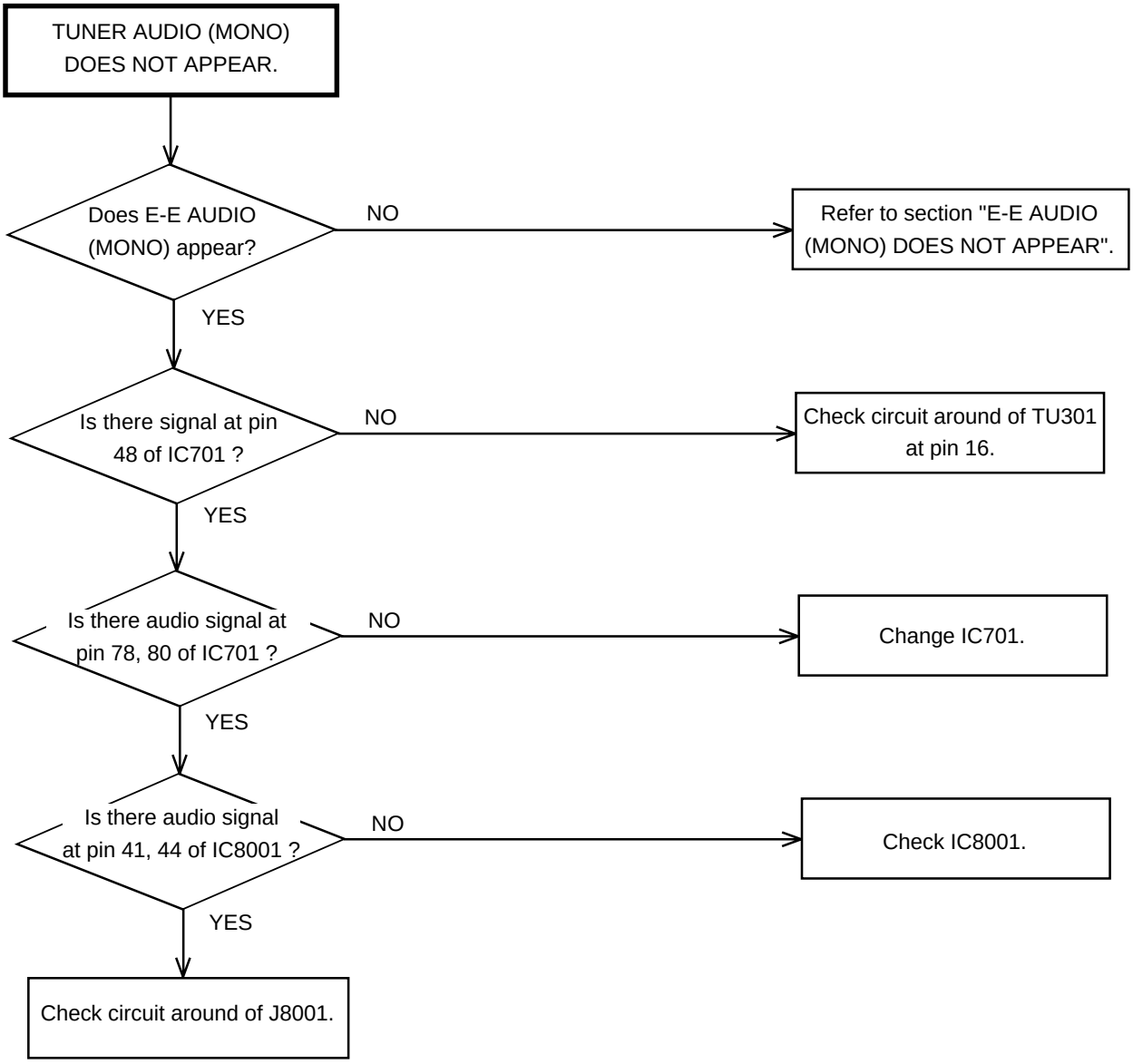
TROUBLESHOOTING GUIDE



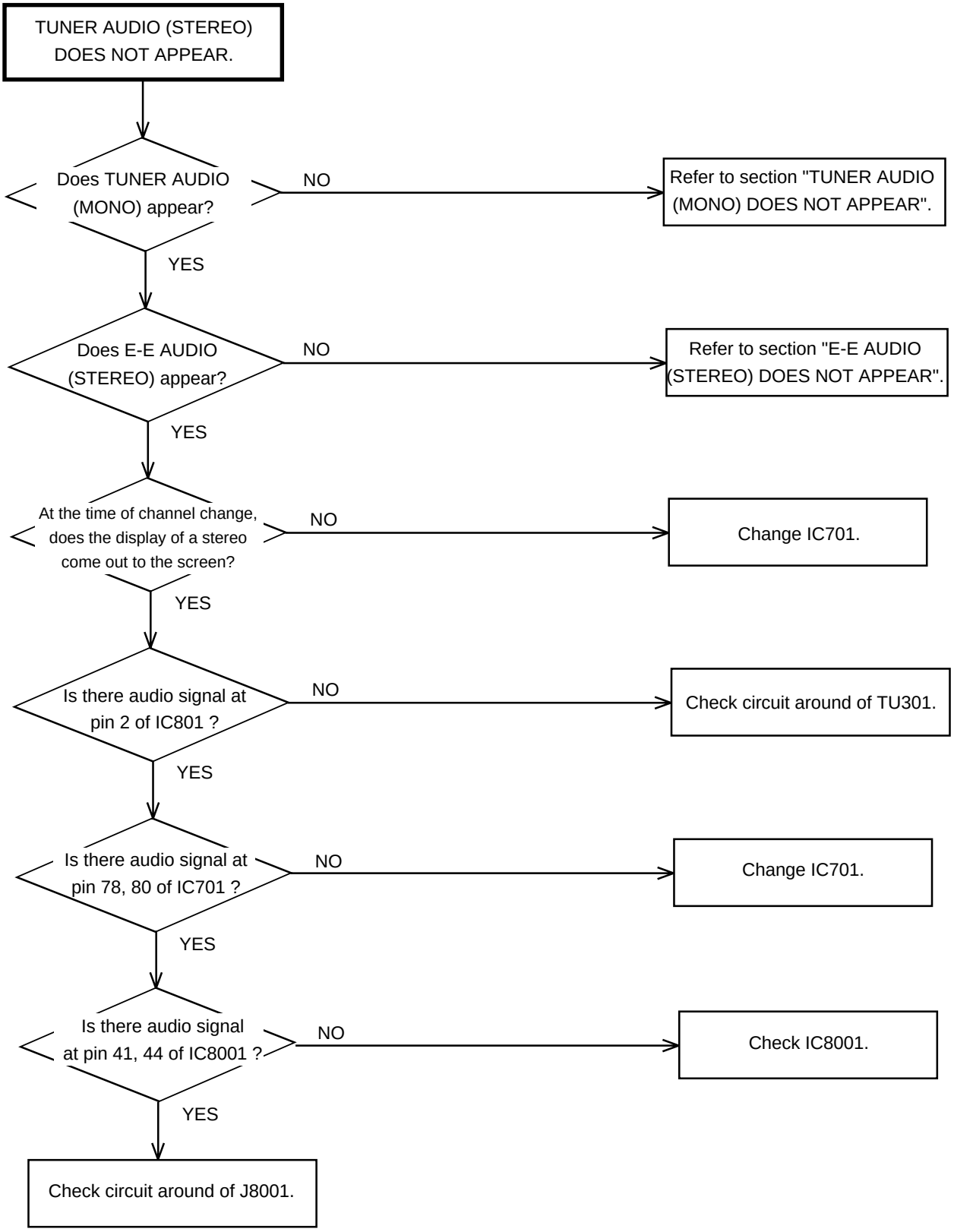
TROUBLESHOOTING GUIDE



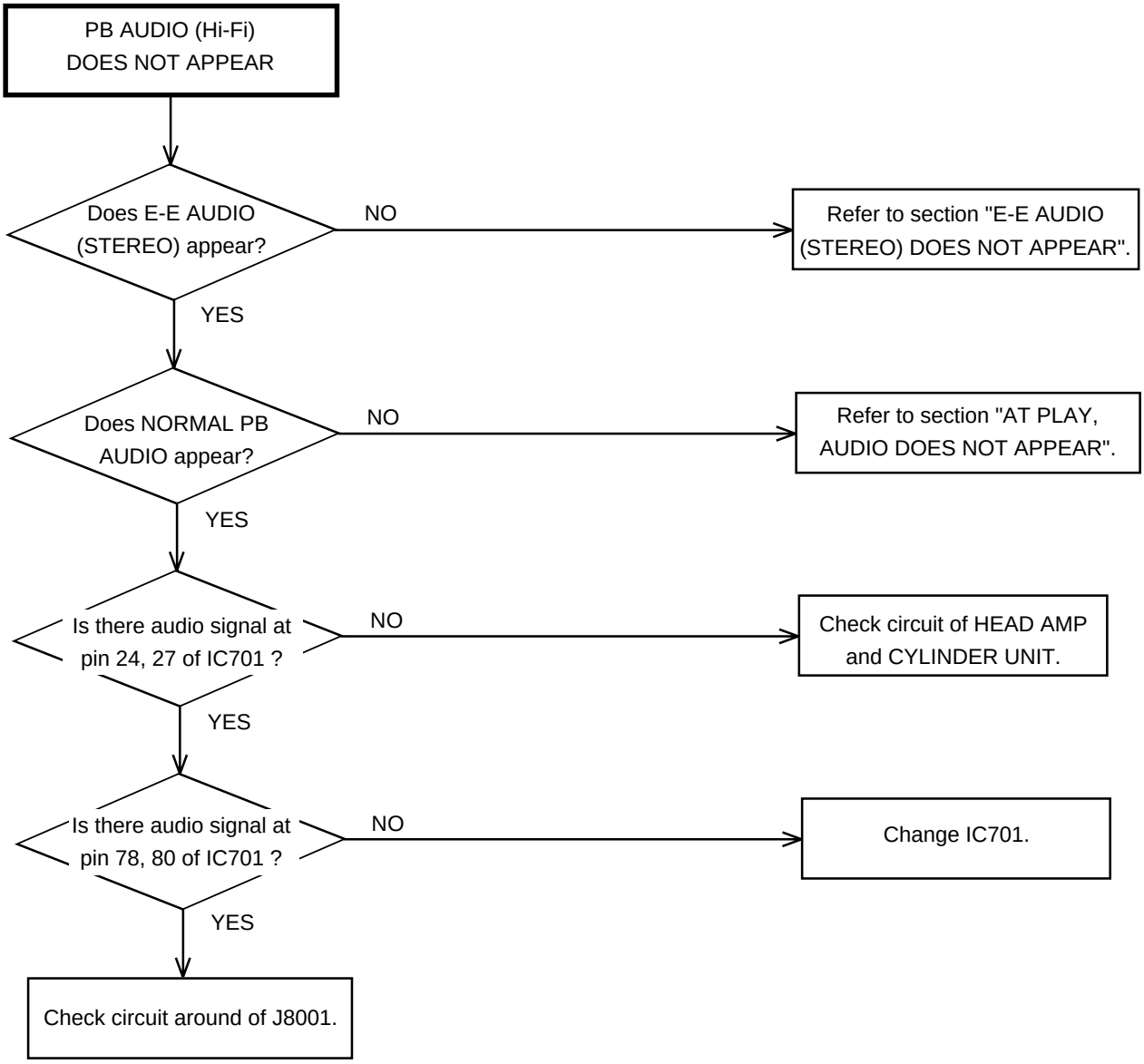
TROUBLESHOOTING GUIDE



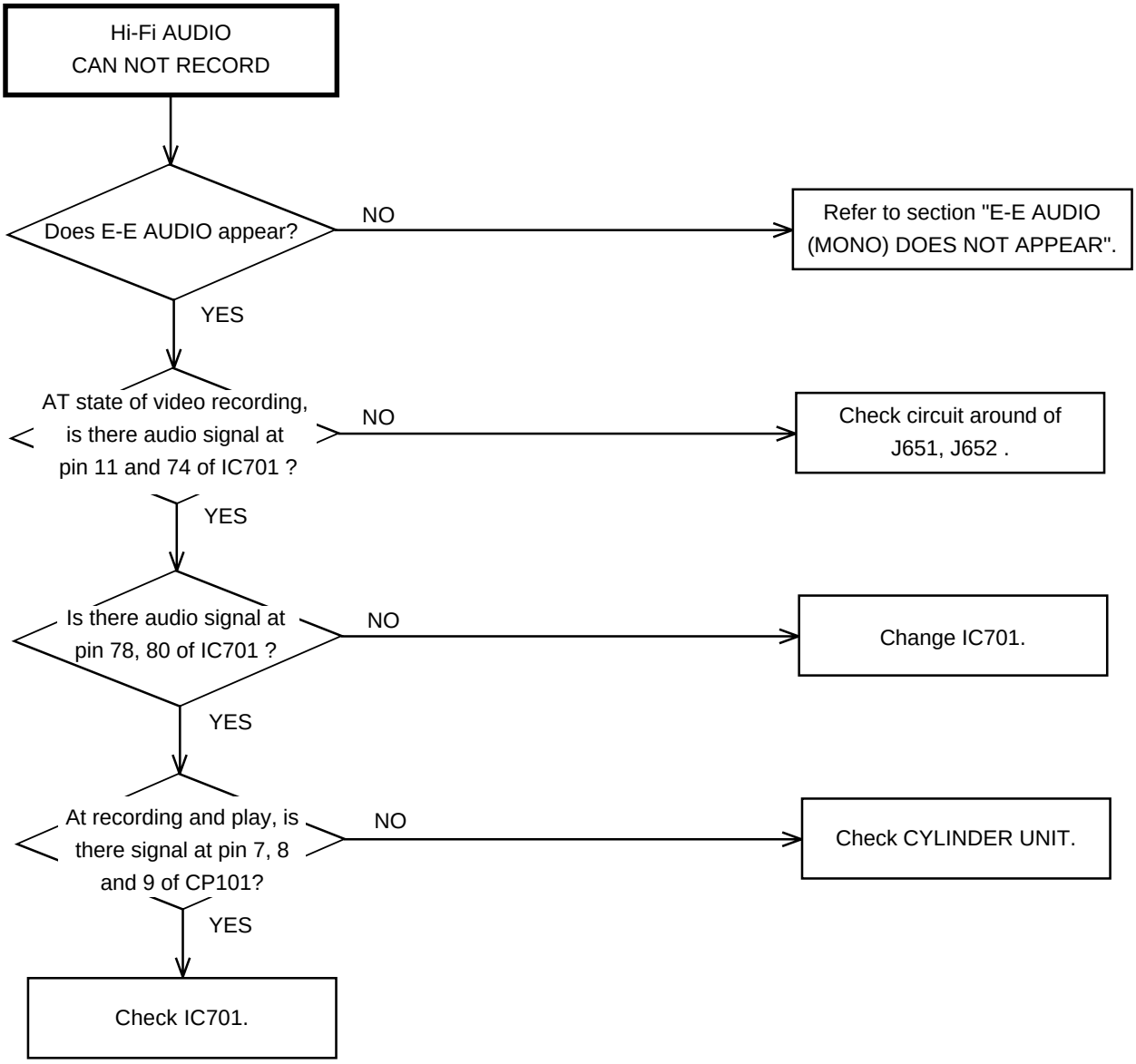
TROUBLESHOOTING GUIDE



TROUBLESHOOTING GUIDE

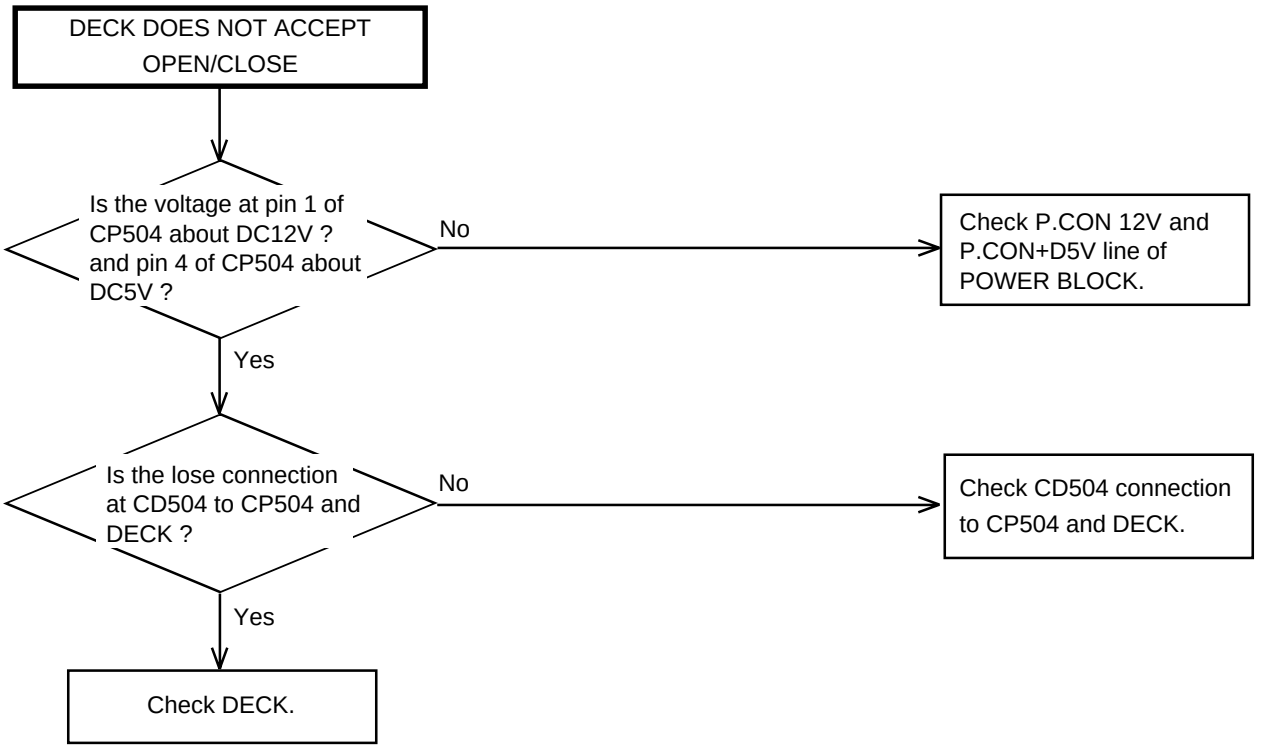


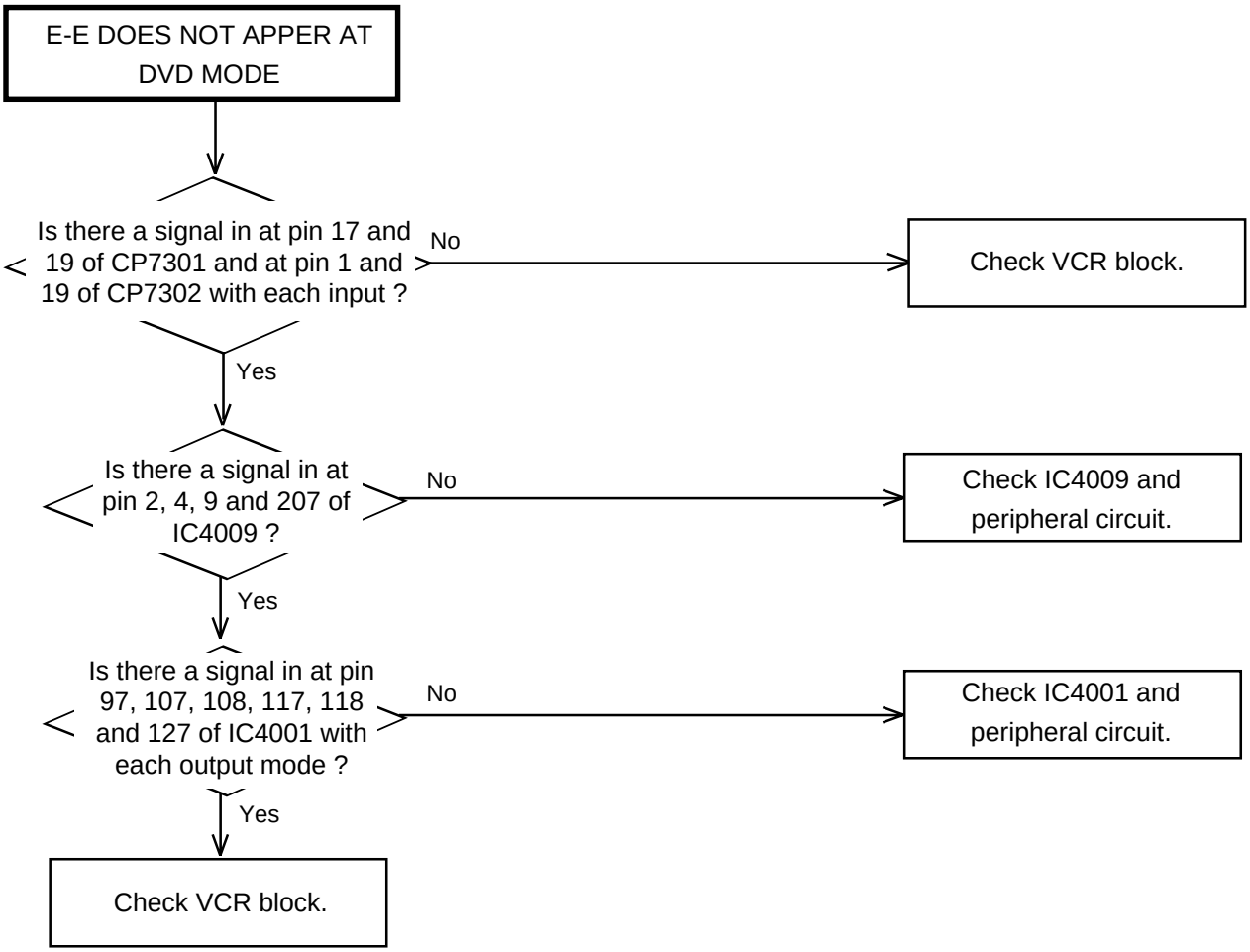
TROUBLESHOOTING GUIDE



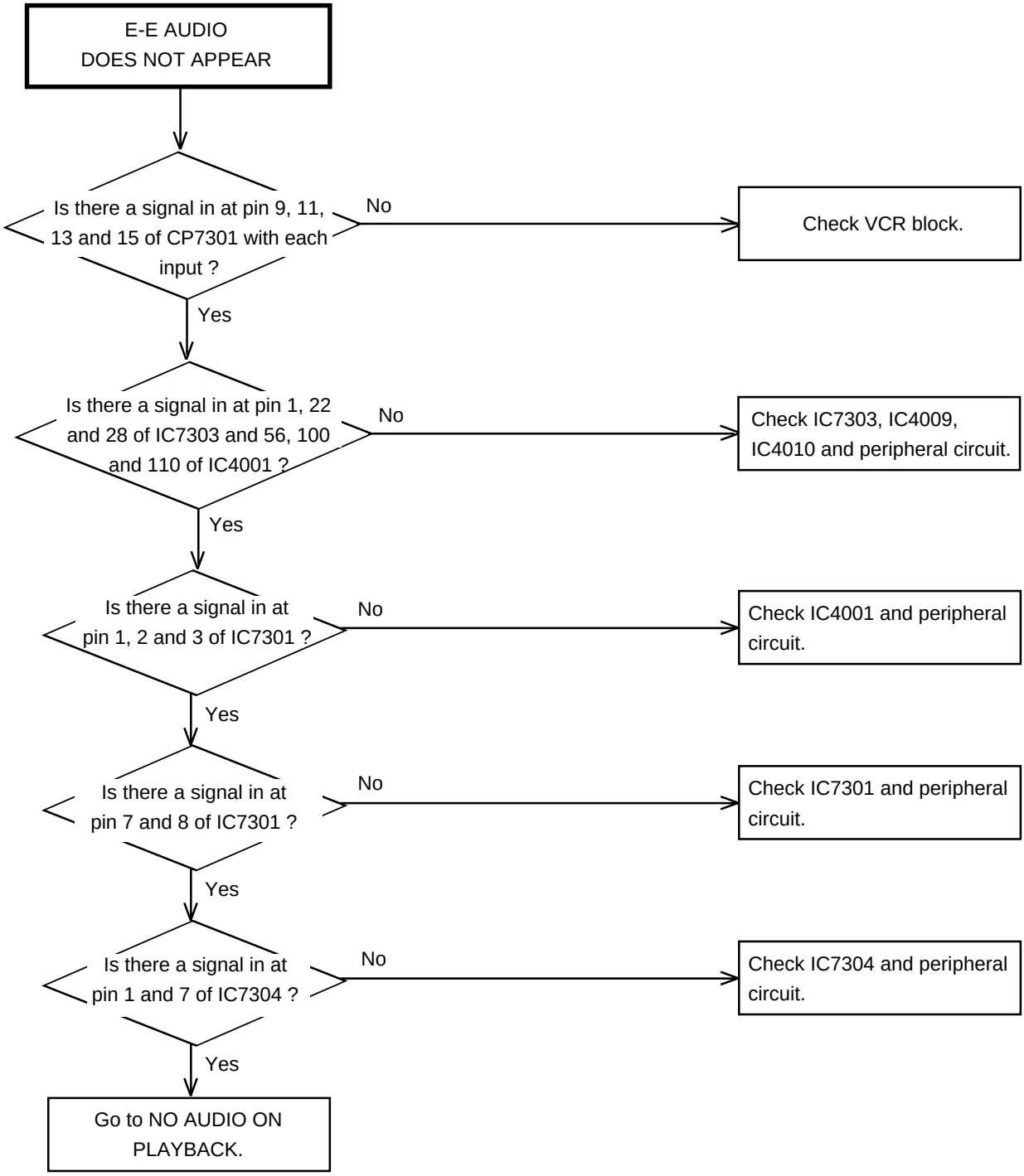
TROUBLESHOOTING GUIDE

(DVD SECTION)

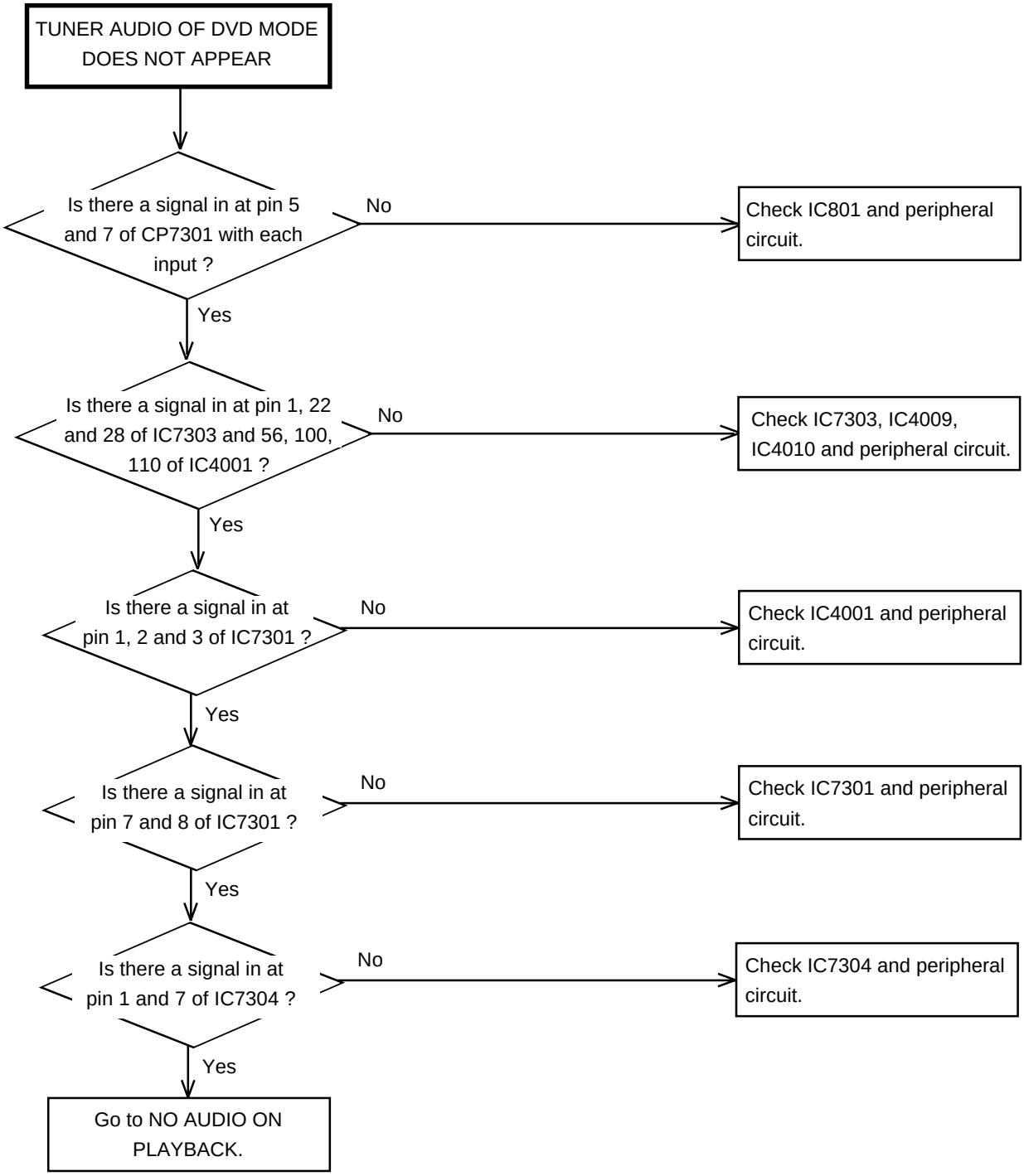




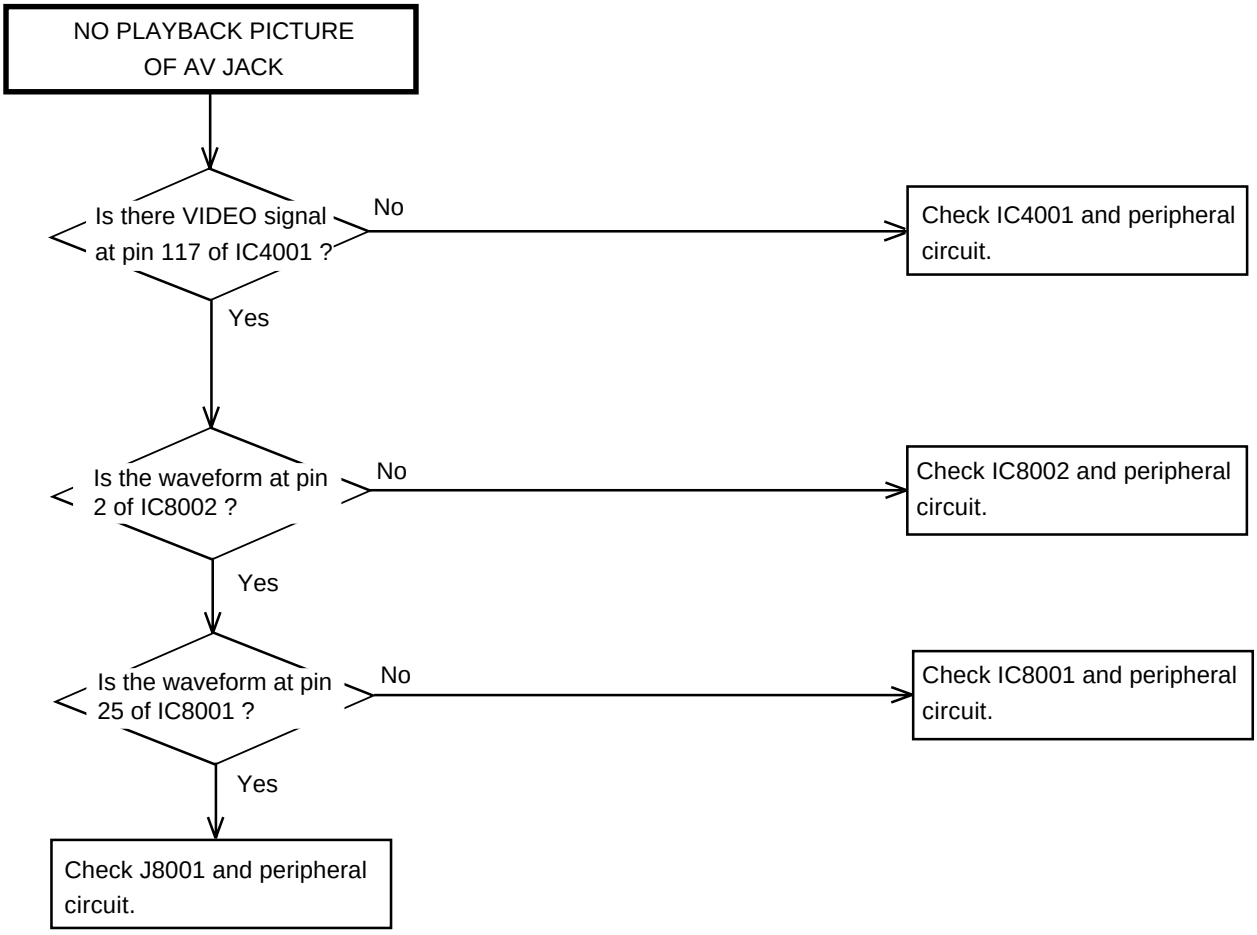
TROUBLESHOOTING GUIDE

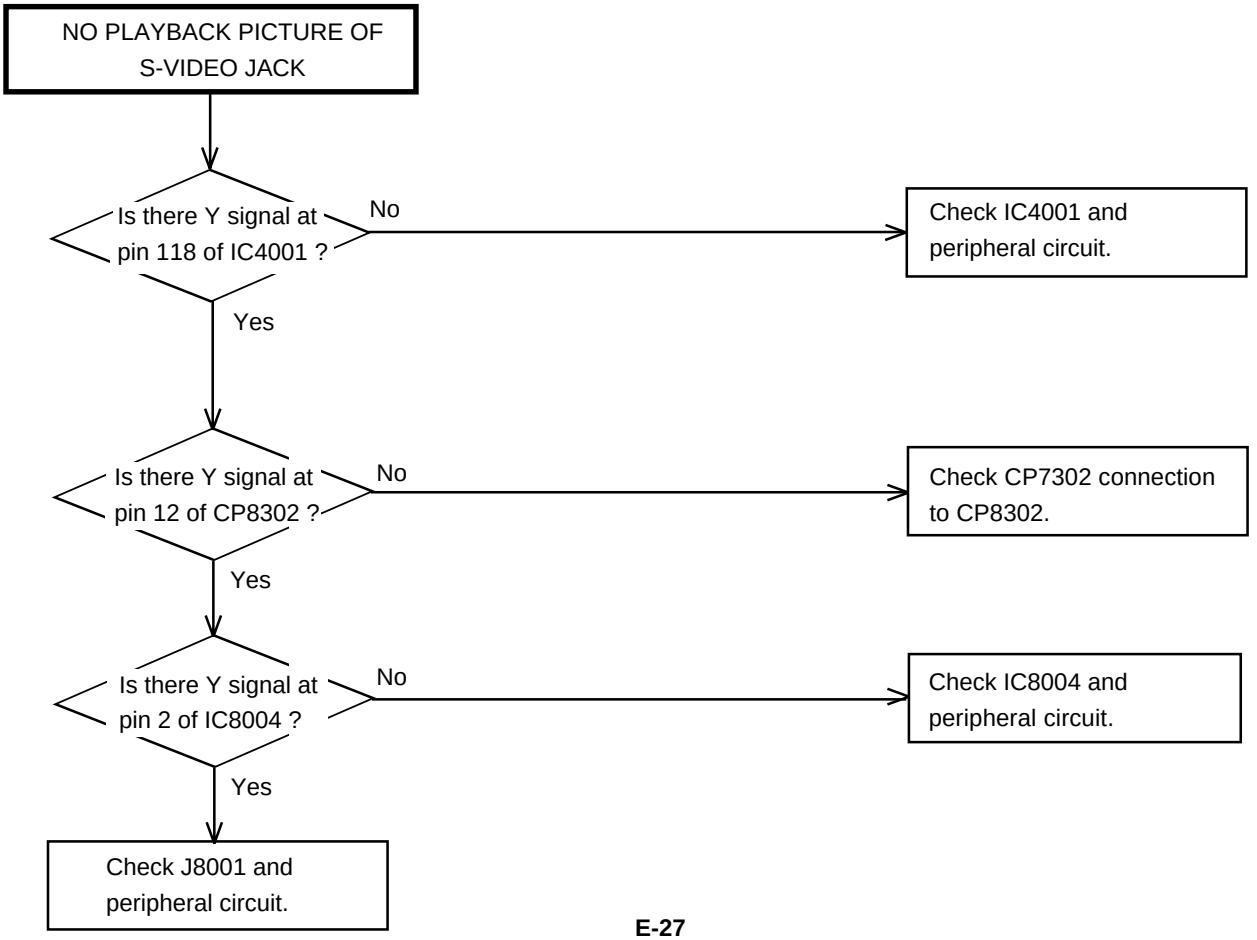


TROUBLESHOOTING GUIDE

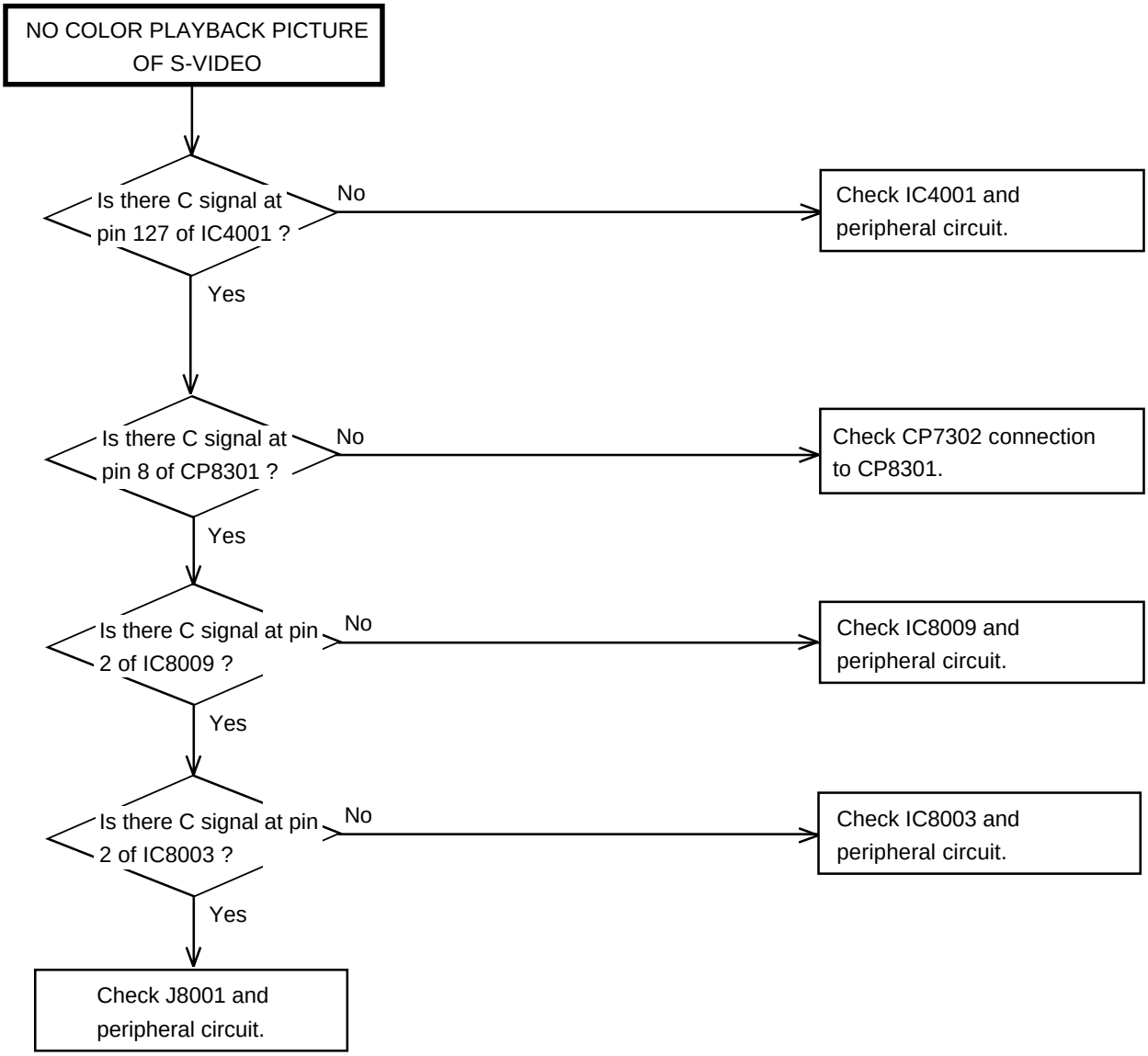


TROUBLESHOOTING GUIDE

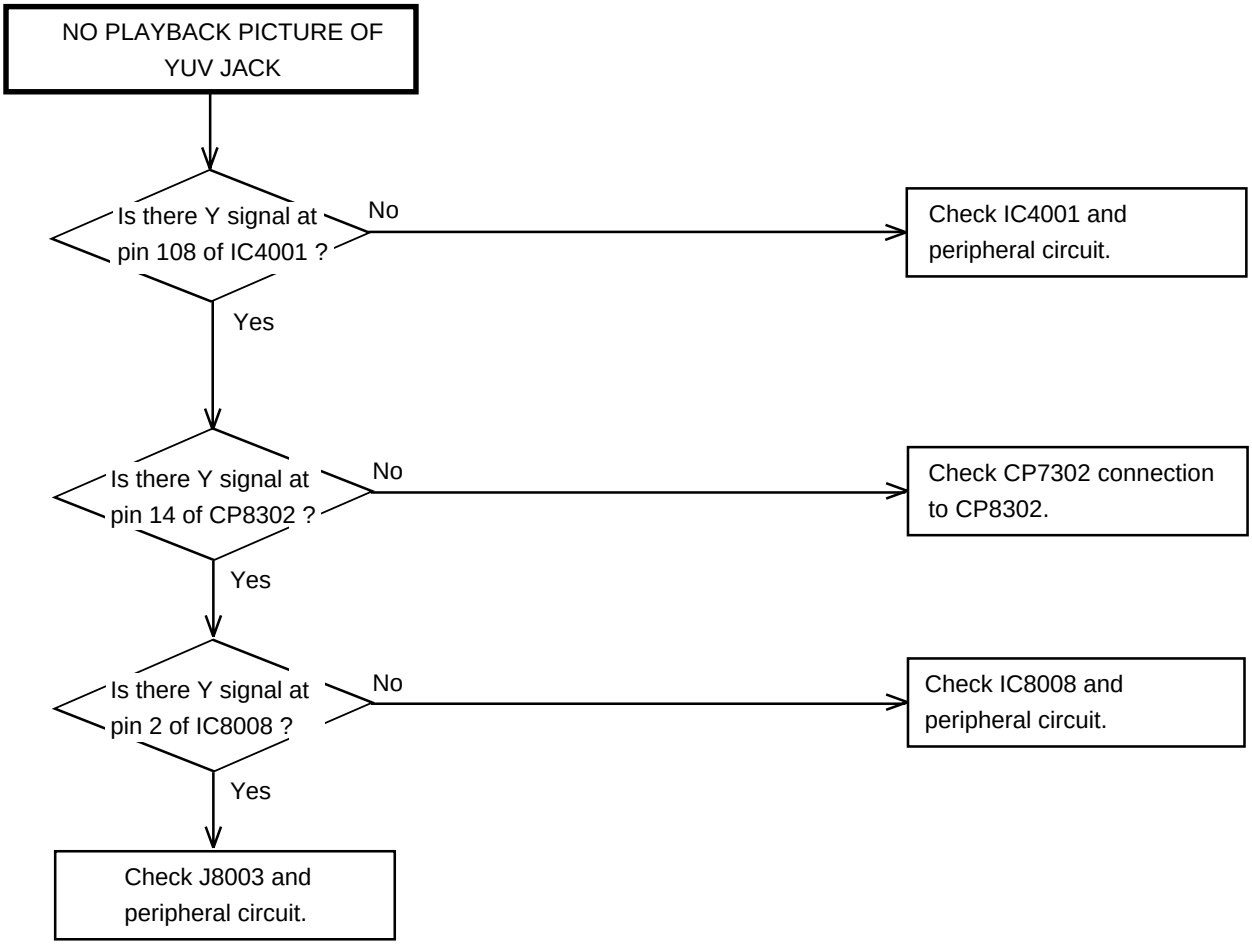


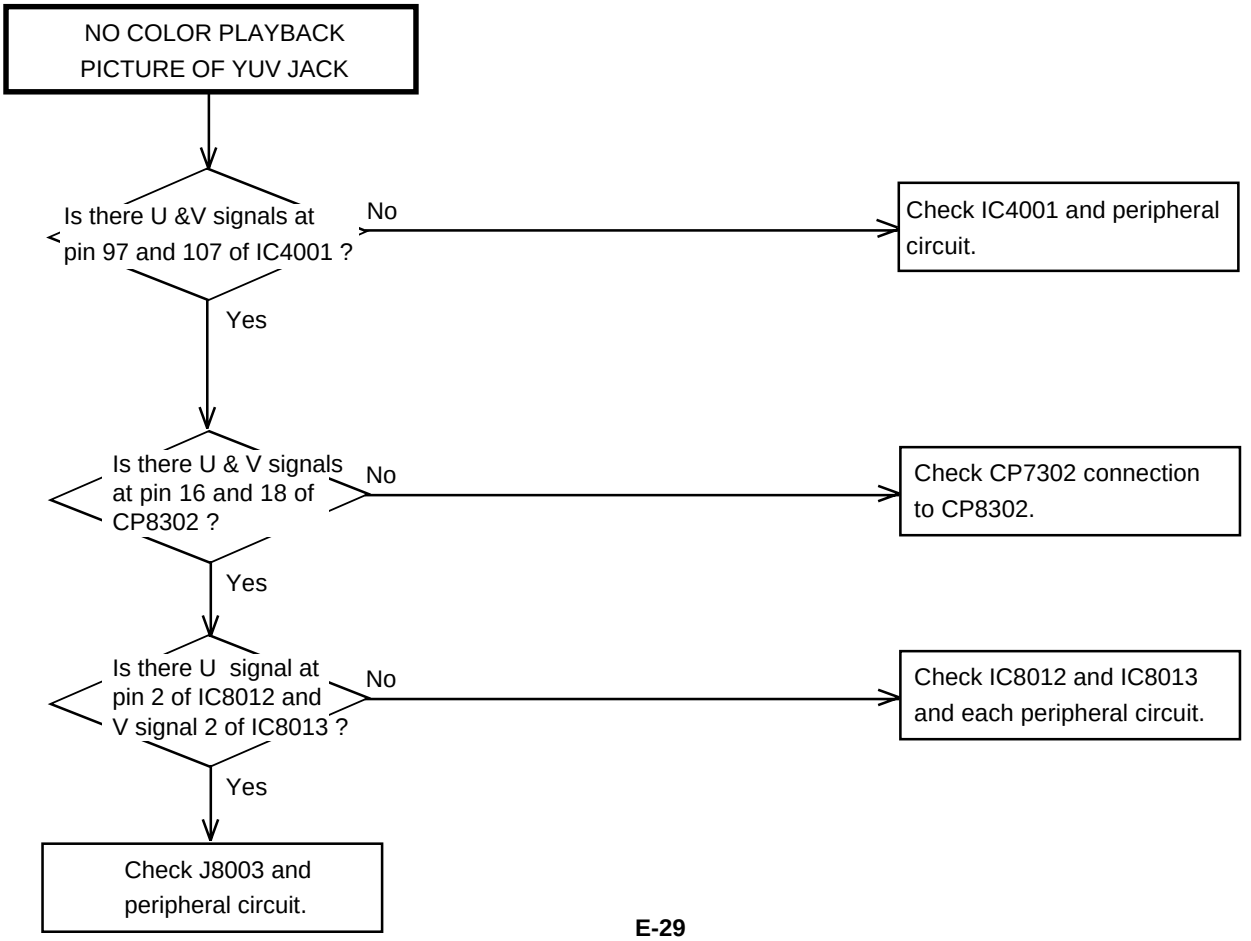


TROUBLESHOOTING GUIDE

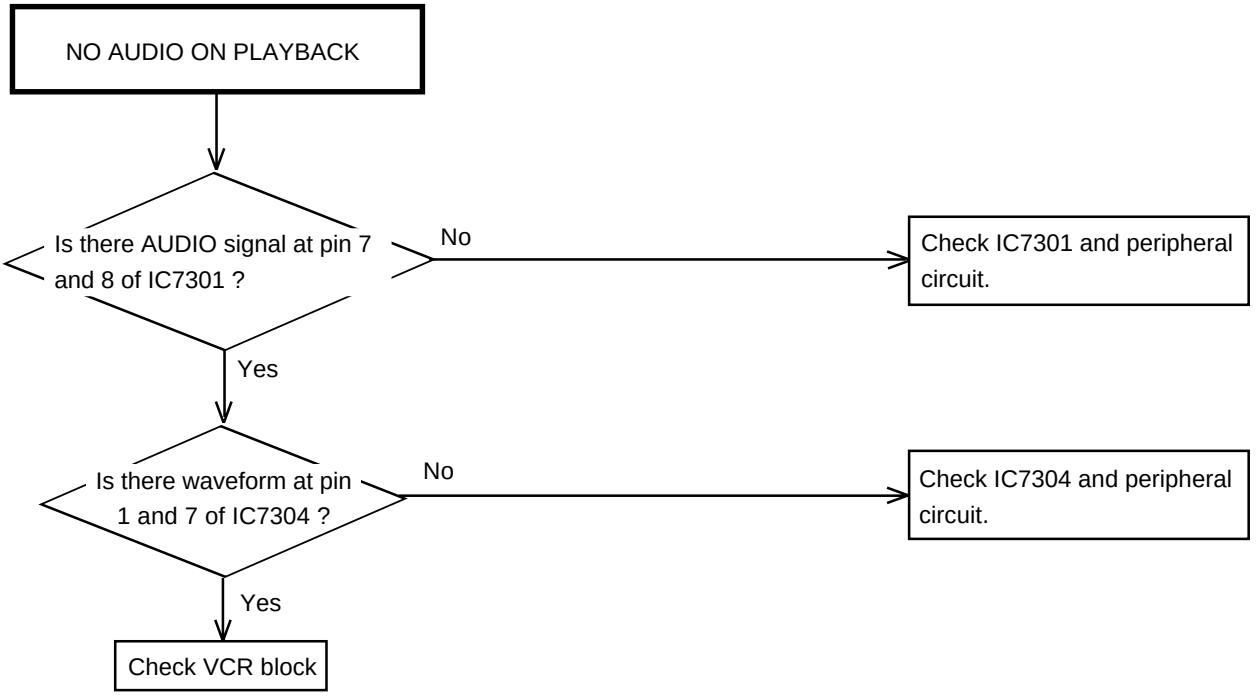


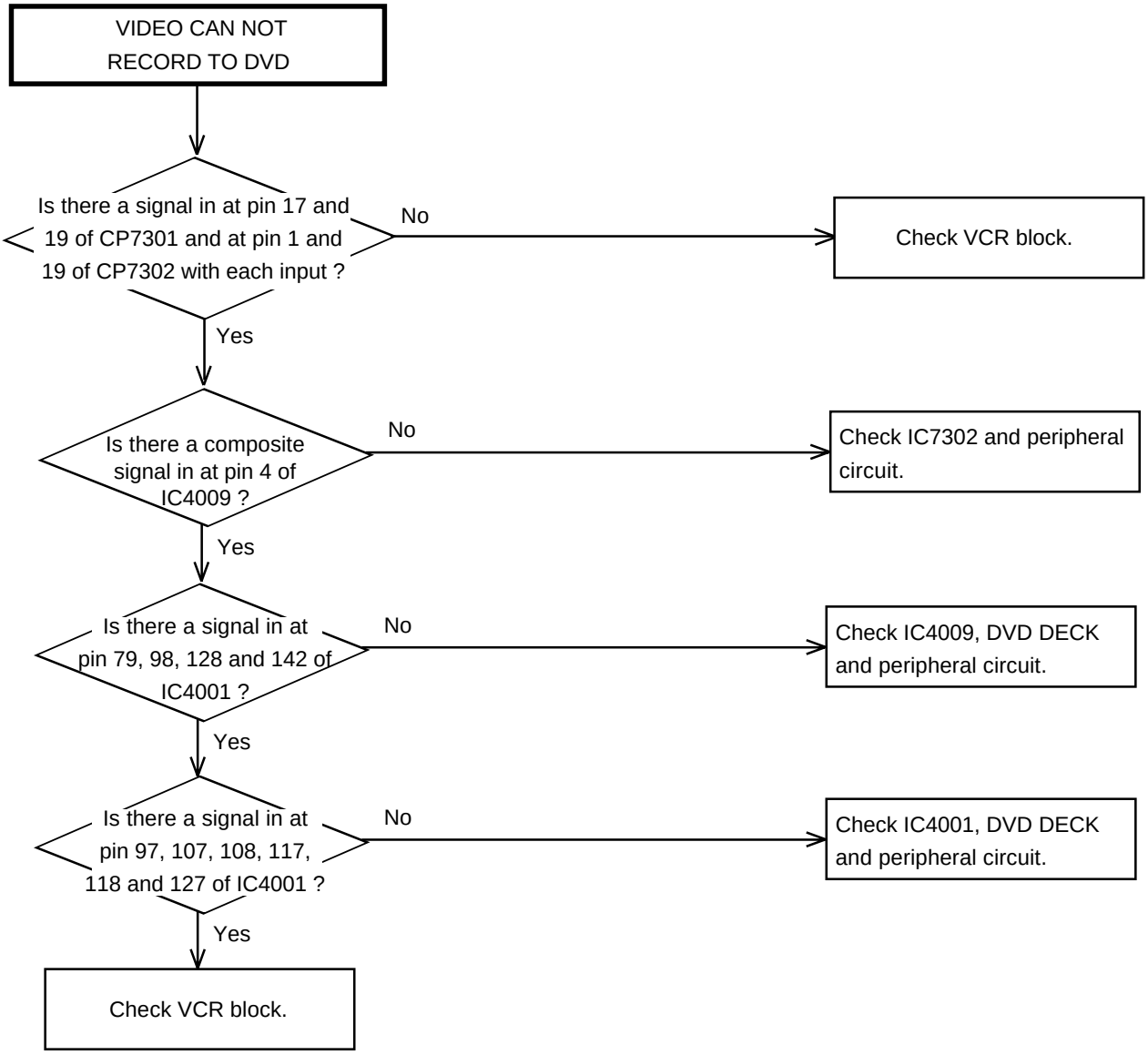
TROUBLESHOOTING GUIDE



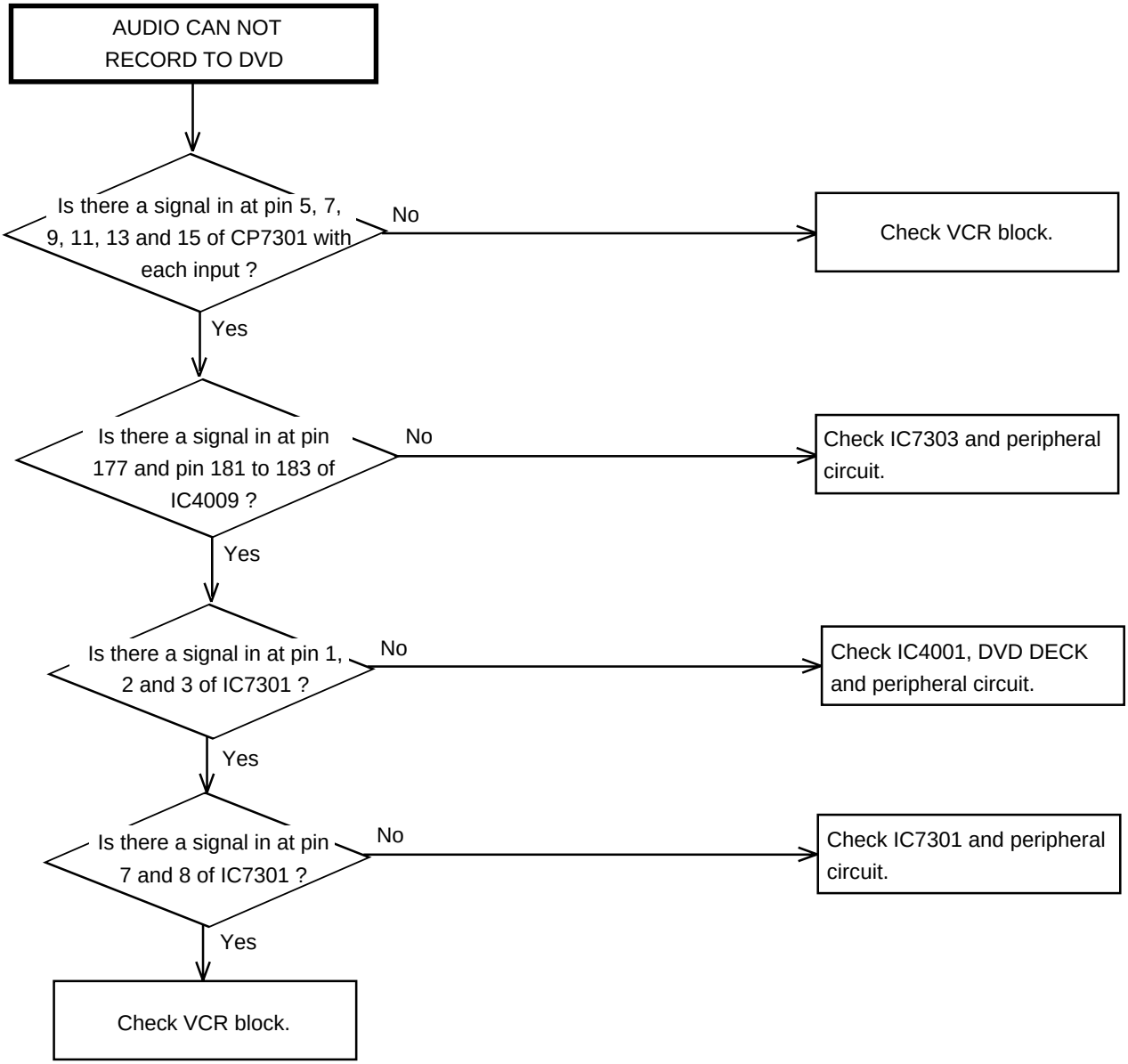


TROUBLESHOOTING GUIDE

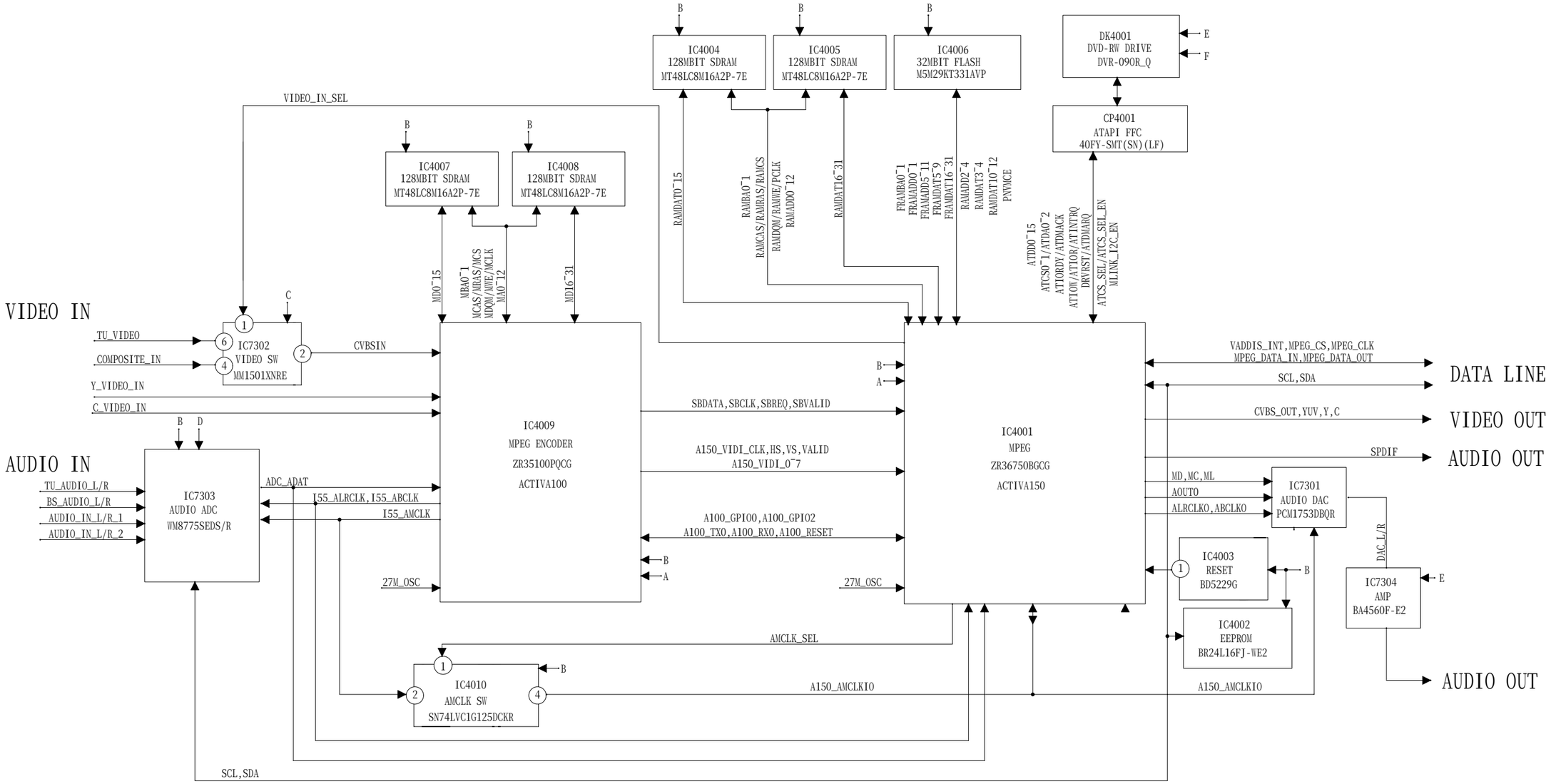




TROUBLESHOOTING GUIDE

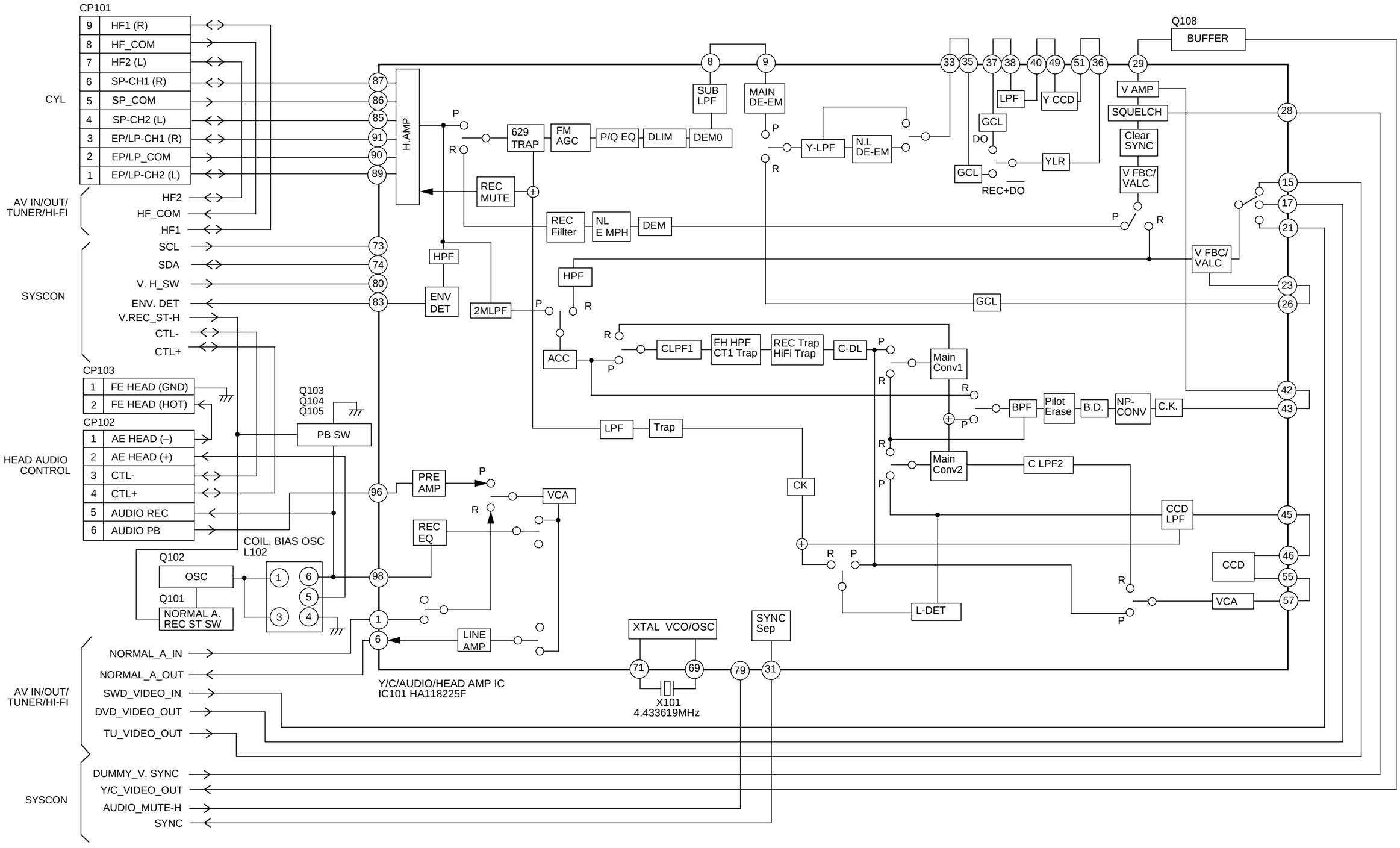


MPEG BLOCK DIAGRAM

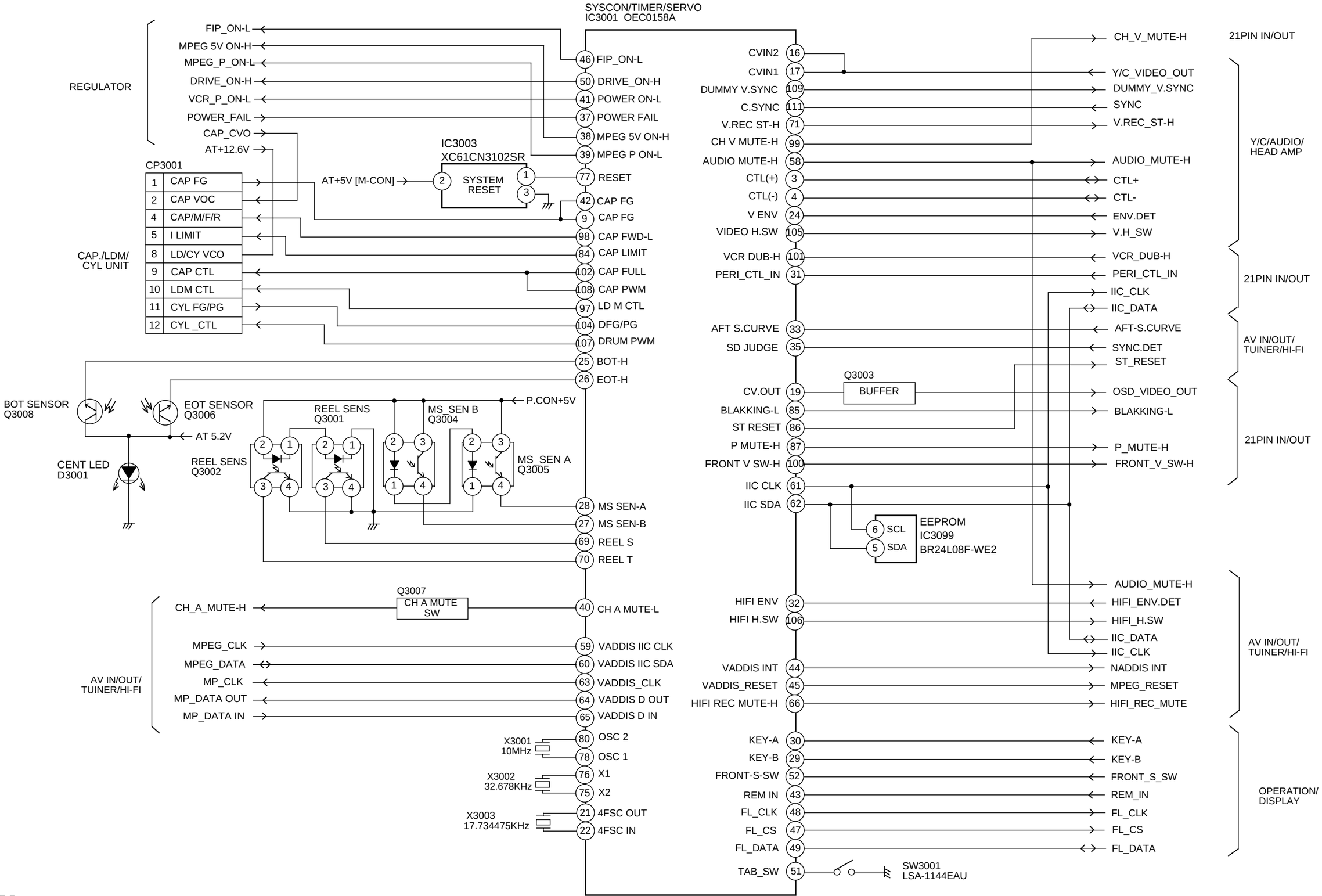


A +1.8V
B +3.3V
C D5V
D A5V
E P.CON+12V
F P.CON+D5V

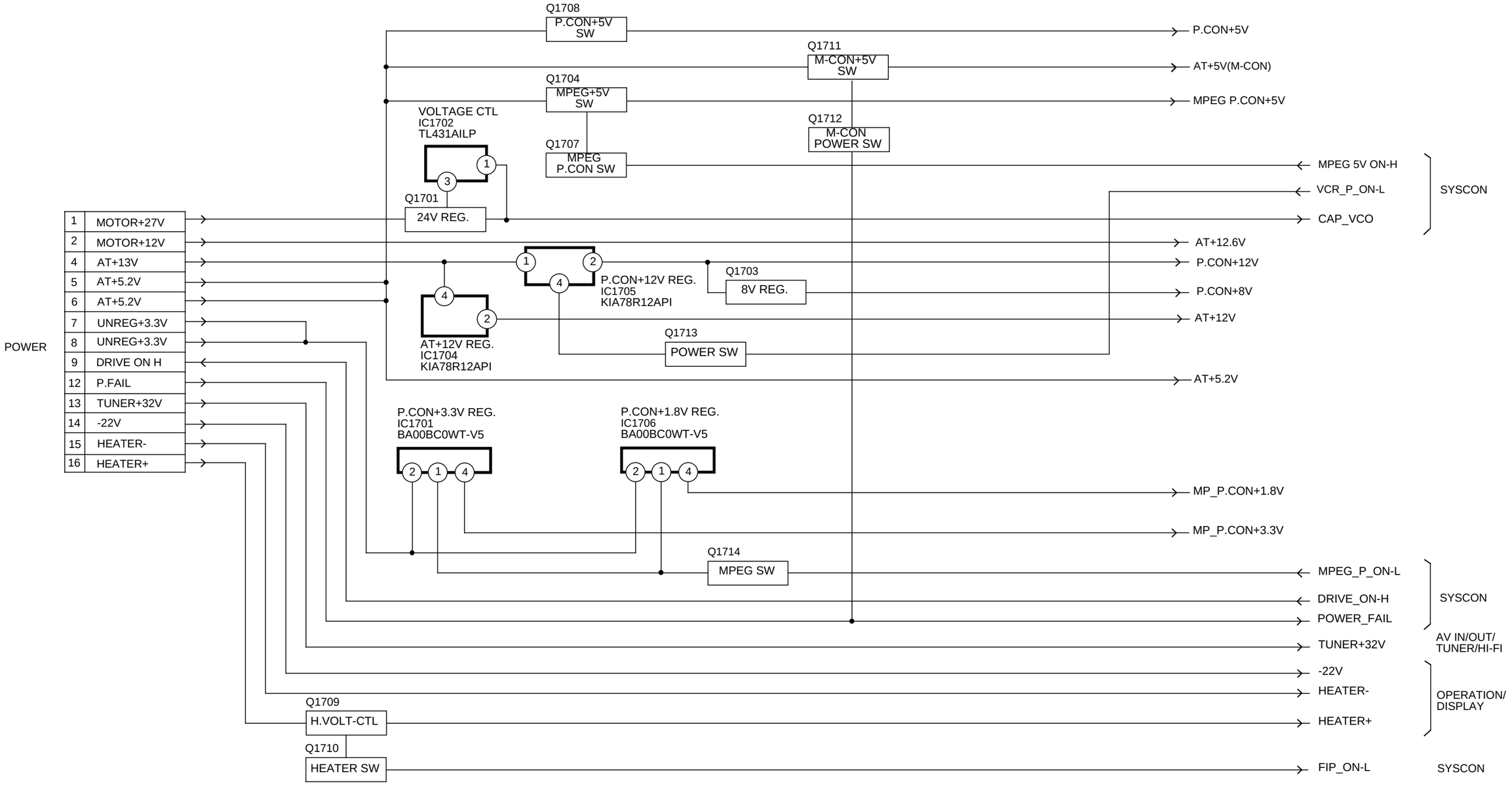
Y/C/AUDIO/HEAD AMP BLOCK DIAGRAM



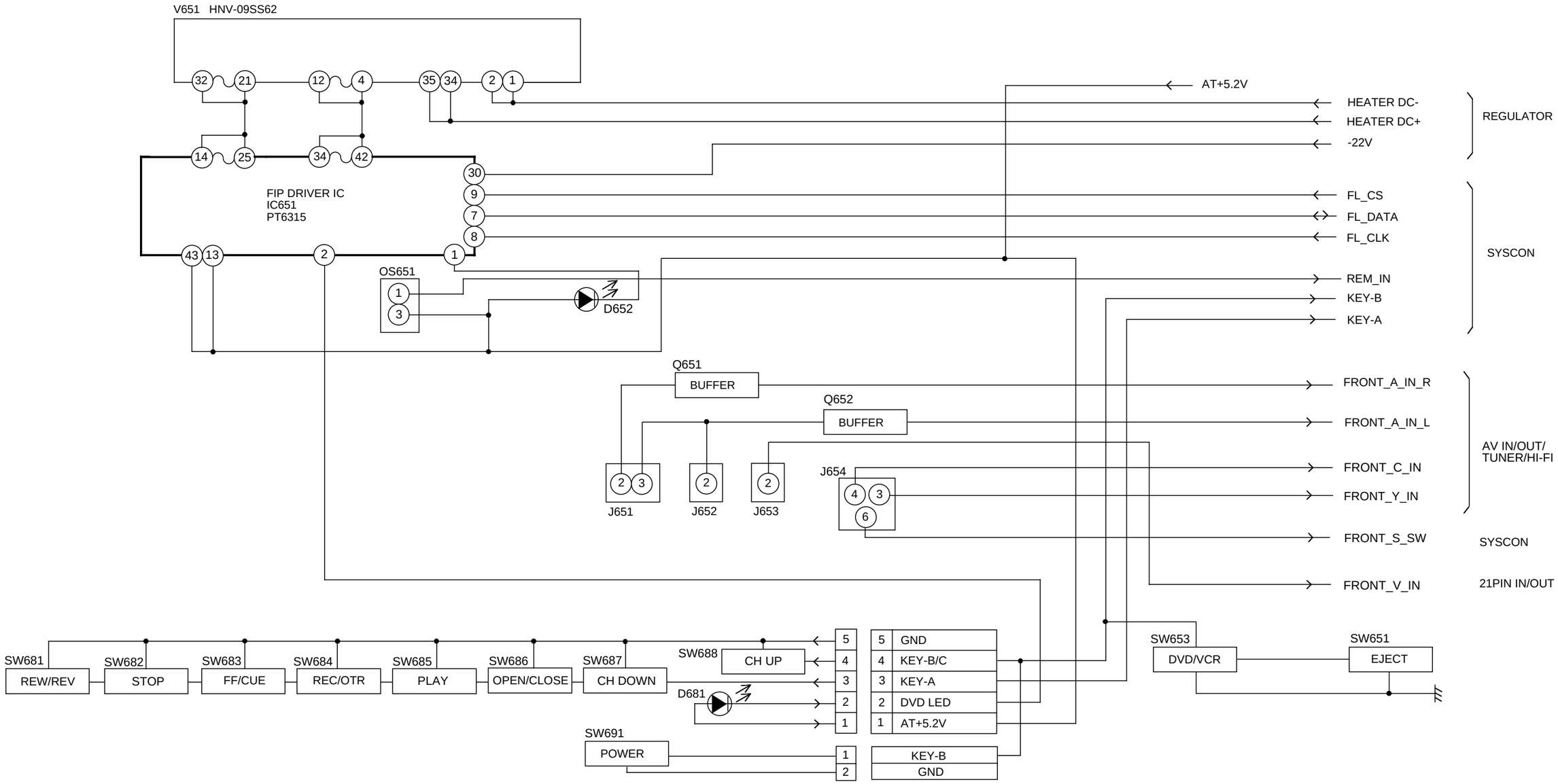
SYSTEM CONTROL BLOCK DIAGRAM



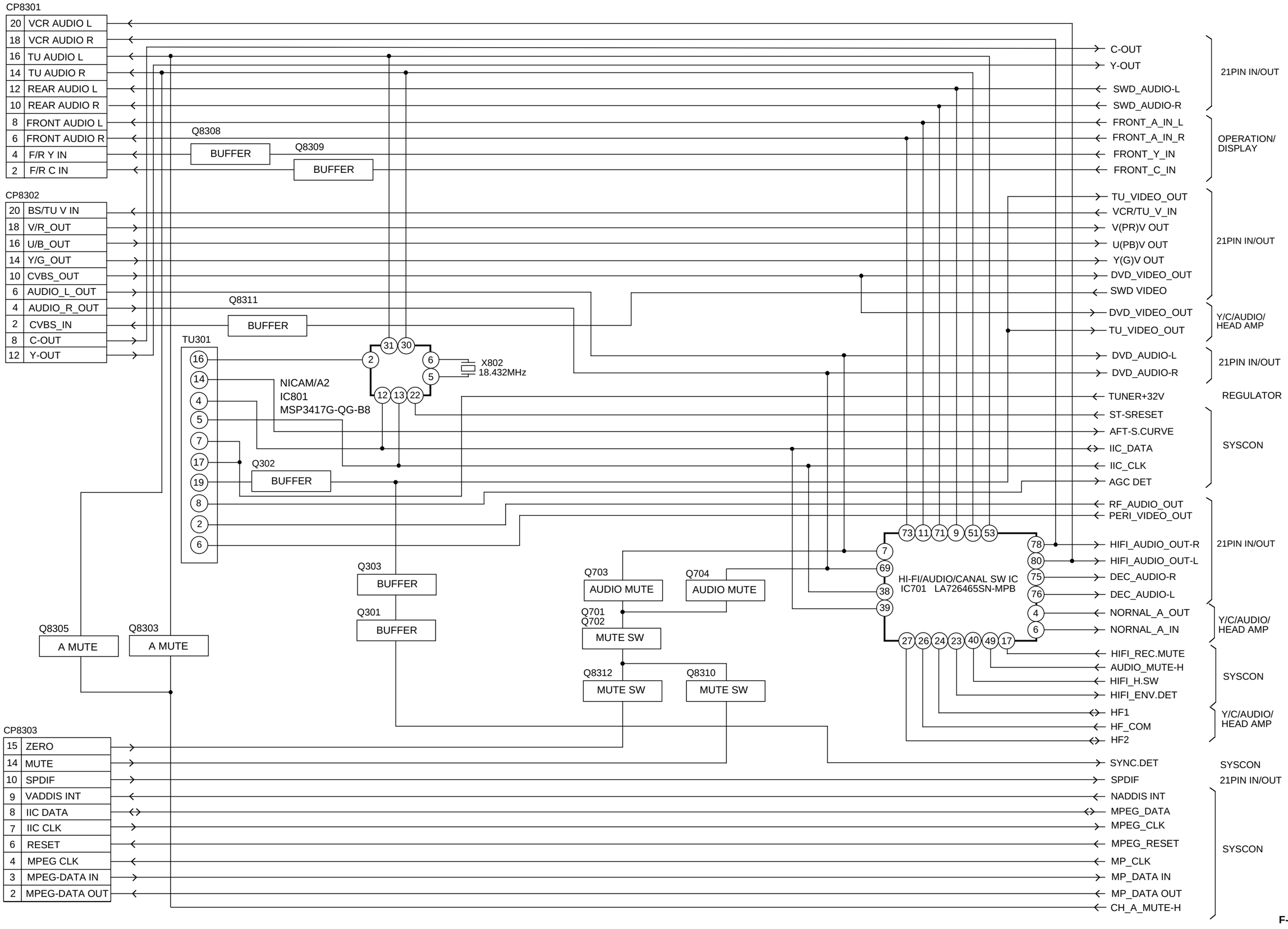
REGULATOR BLOCK DIAGRAM



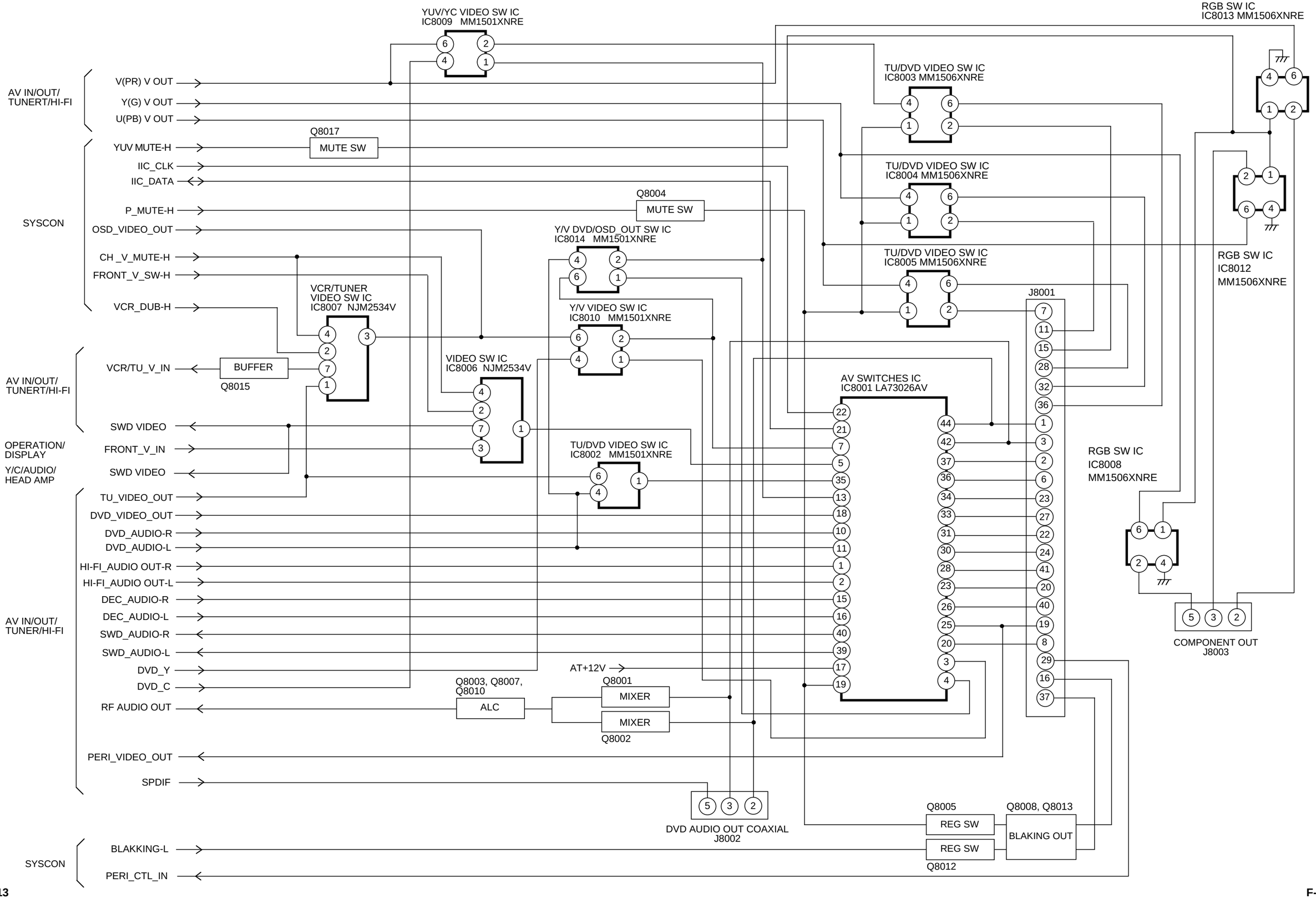
OPERATION/DISPLAY BLOCK DIAGRAM



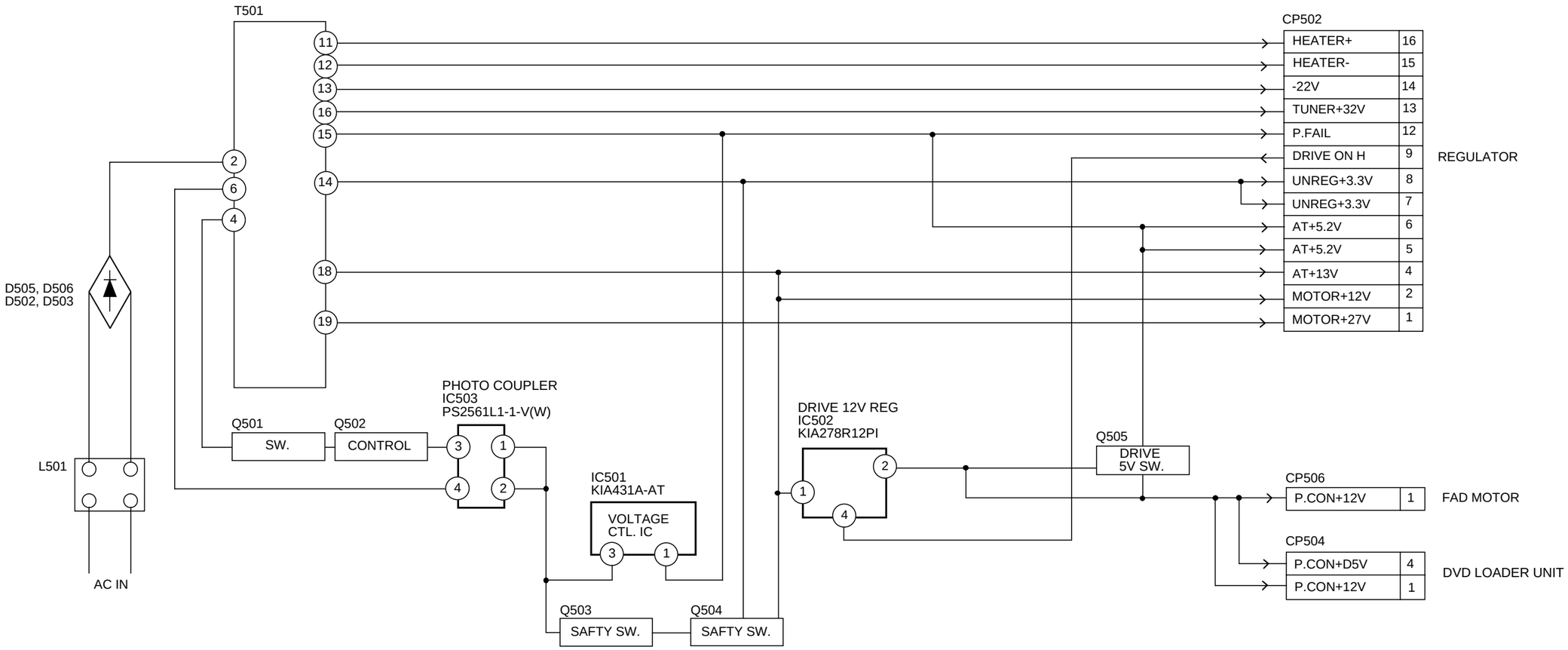
AV IN/OUT/TUNER/Hi-Fi BLOCK DIAGRAM



21PIN IN/OUT BLOCK DIAGRAM

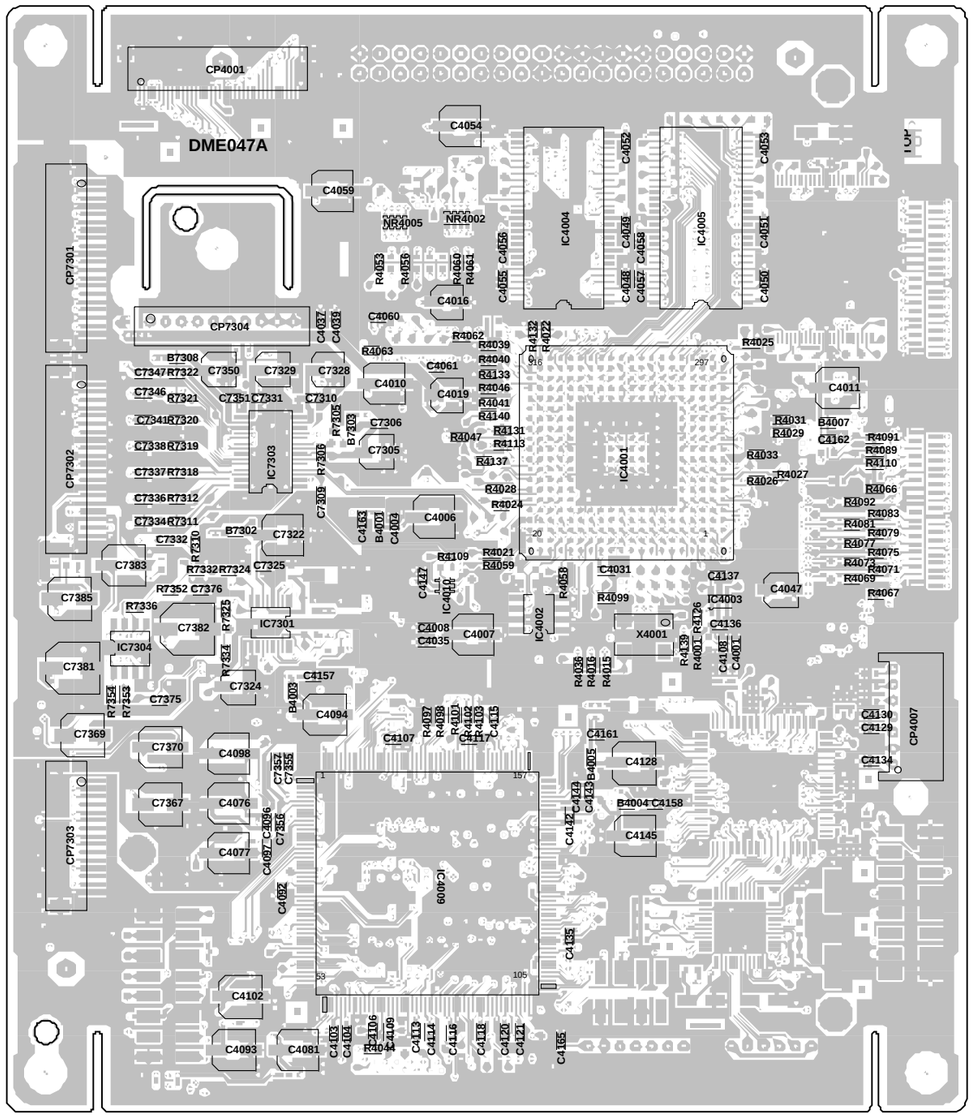


POWER BLOCK DIAGRAM

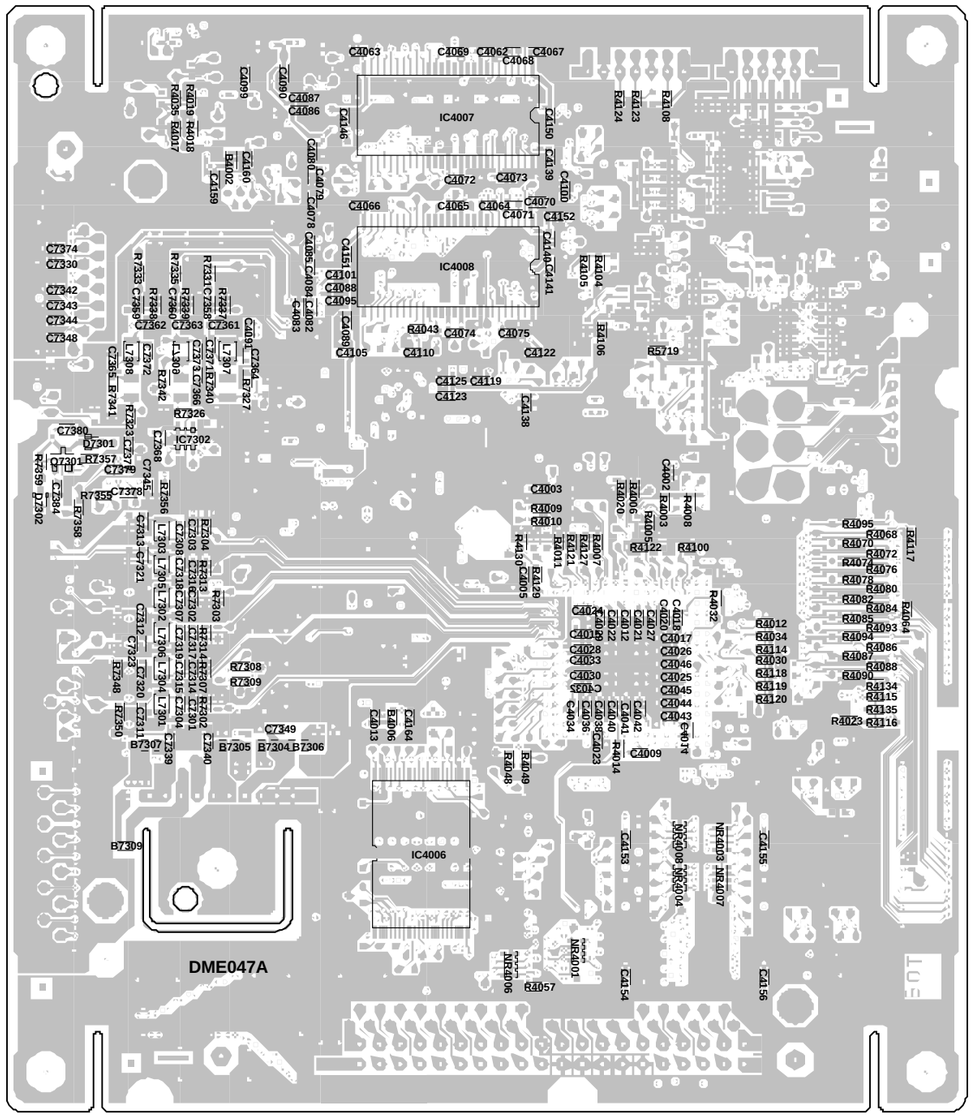


PRINTED CIRCUIT BOARDS

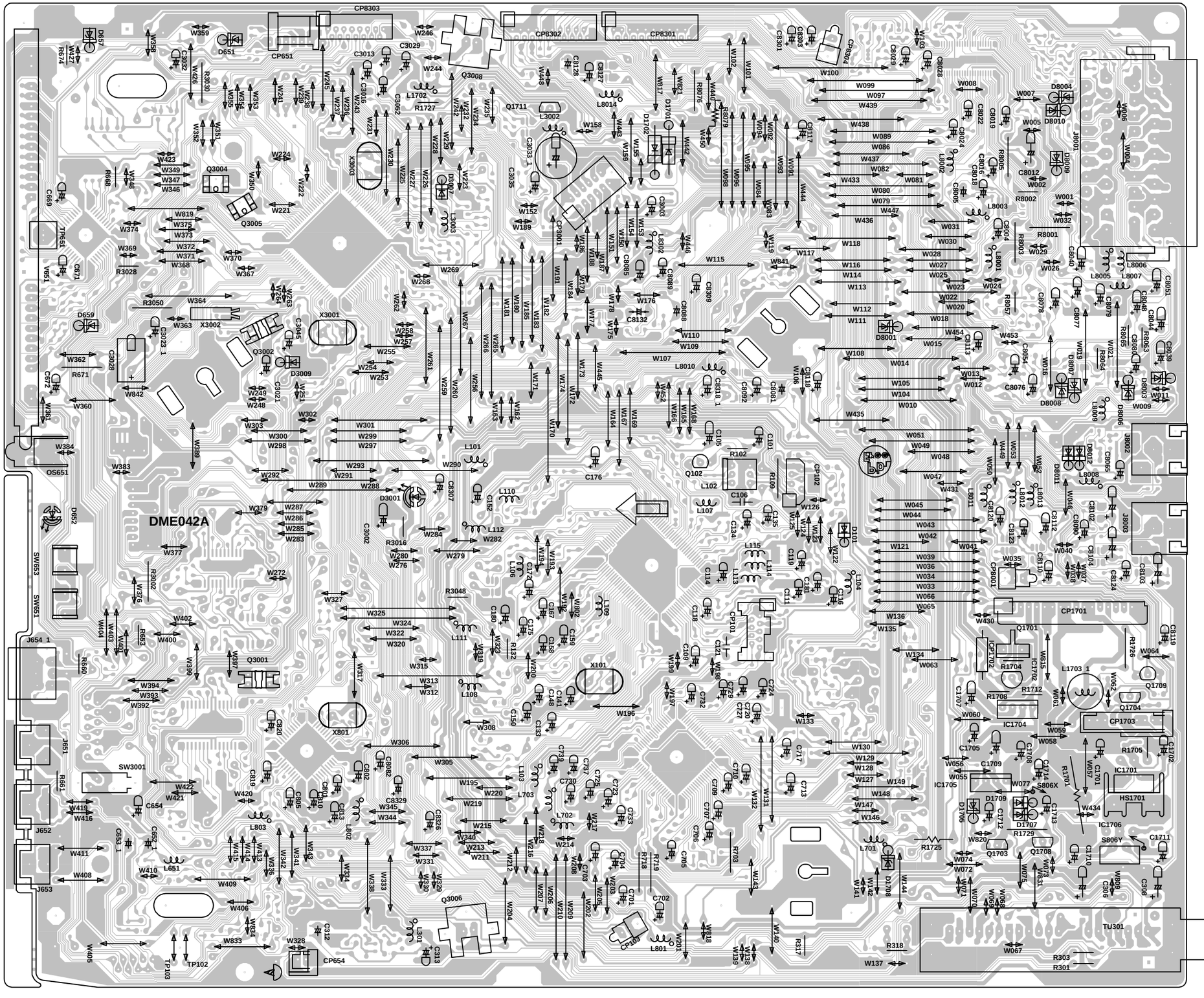
DVD/HD MPEG (TOP SIDE)



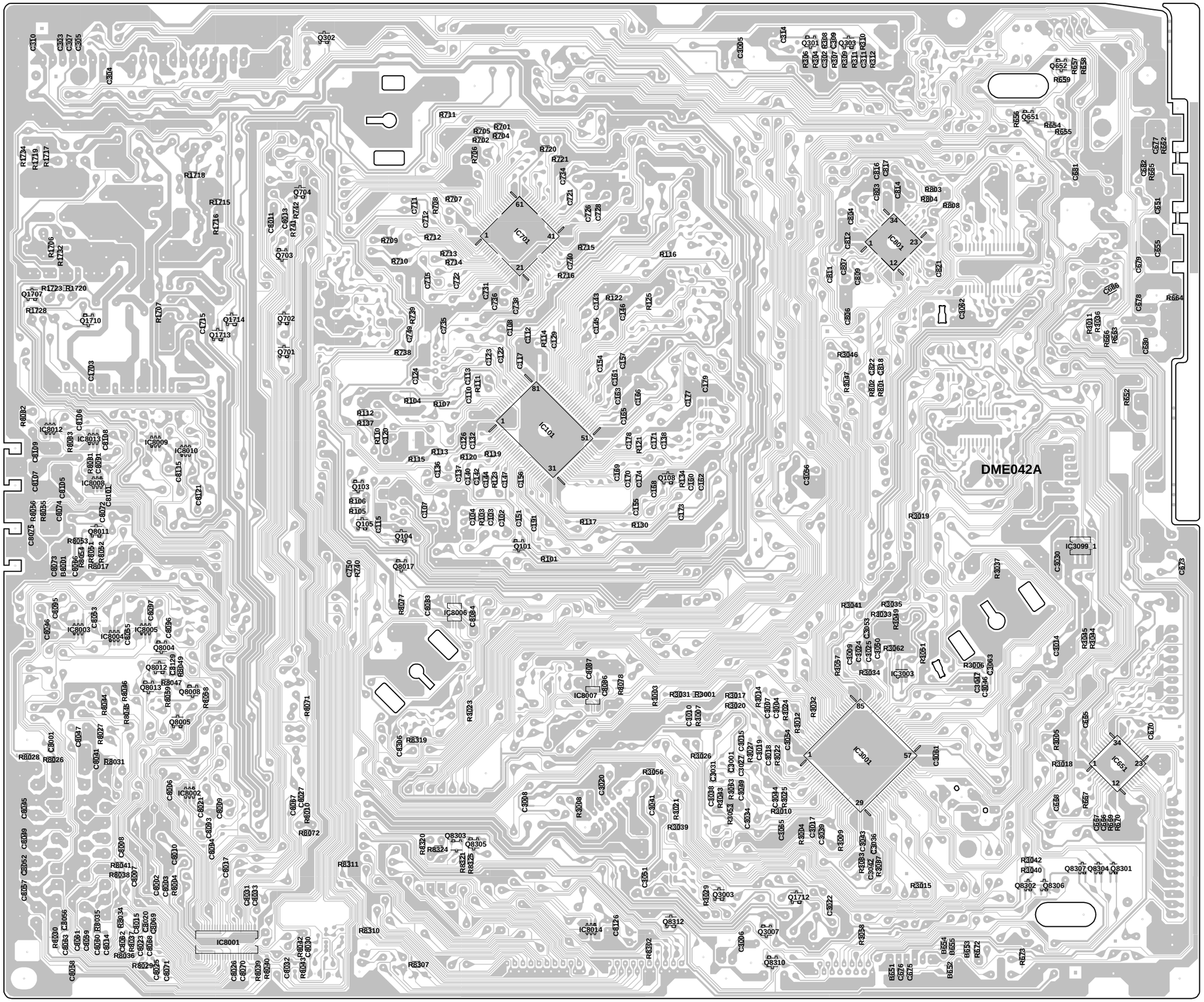
DVD/HD MPEG (BOTTOM SIDE)



PRINTED CIRCUIT BOARDS
VCR (INSERTED PARTS)
SOLDER SIDE

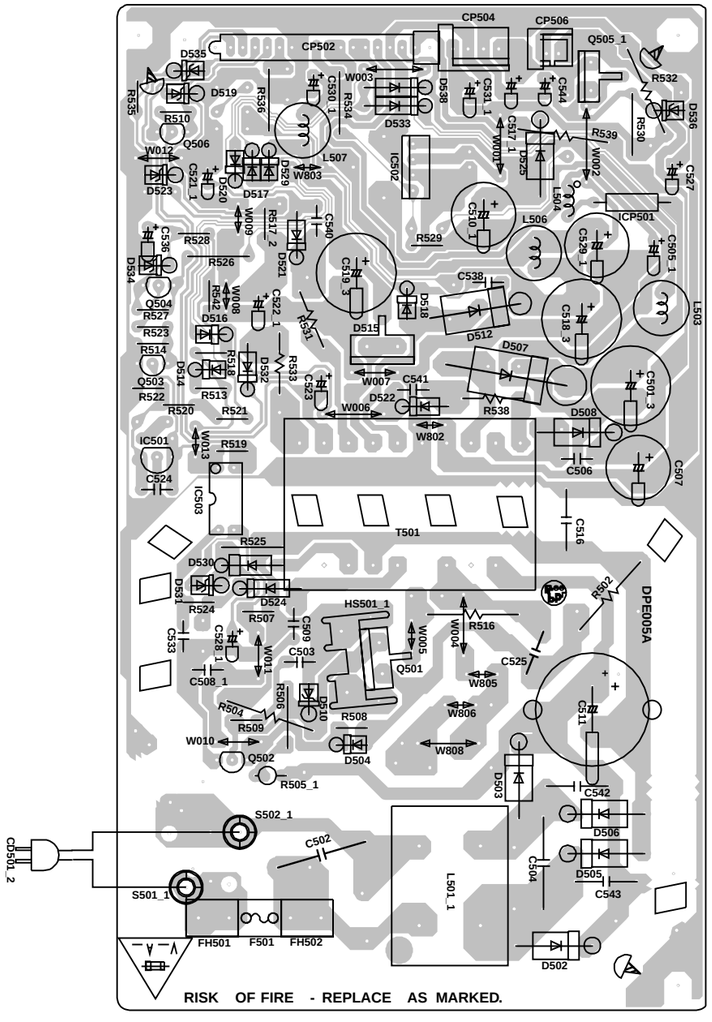


PRINTED CIRCUIT BOARDS
VCR (CHIP MOUNTED PARTS)
SOLDER SIDE

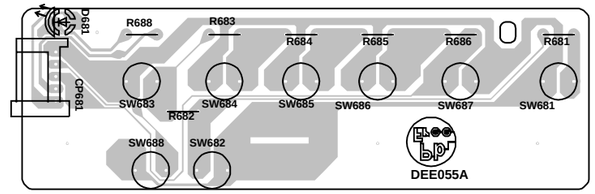


PRINTED CIRCUIT BOARDS

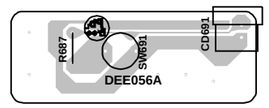
POWER
SOLDER SIDE



OPERATION 1
SOLDER SIDE



OPERATION 2
SOLDER SIDE



AV ENCODER SCHEMATIC DIAGRAM

(DVD/HD MPEG PCB)

FROM/TO MPEG

FROM/TO AUDIO

FROM/TO AV IN/OUT

128Mbit SDRAM
IC4007
MT48LC8M16A2P-7E

128Mbit SDRAM
IC4008
MT48LC8M16A2P-7E

MPEG ENCODER
IC4009
ZR35100PQCG

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE。

NOTE: THE DC VOLTAGE EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK.

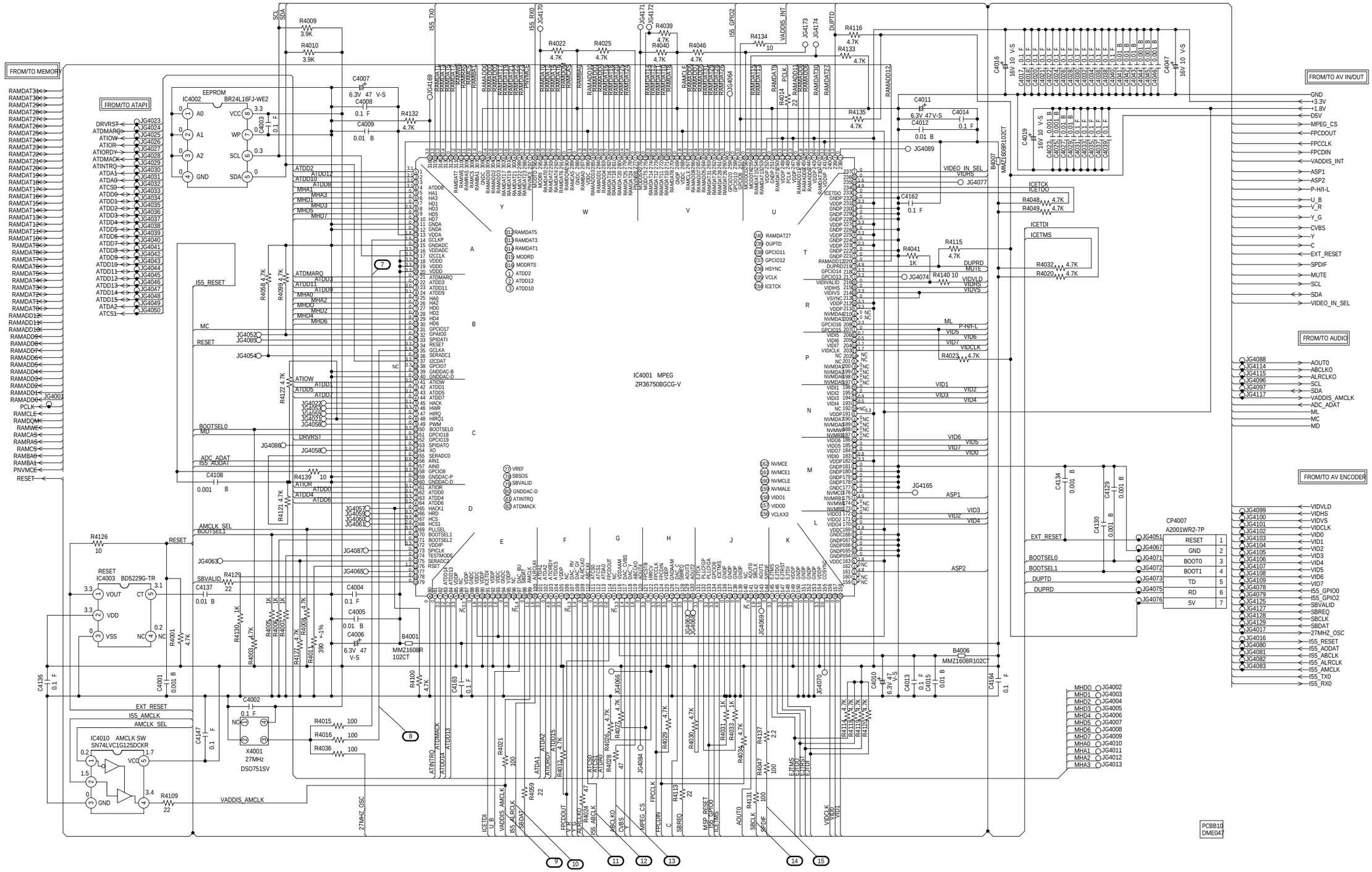
PCBB10
DME047

H-1

H-2

MPEG SCHEMATIC DIAGRAM

(DVD/HD MPEG PCB)

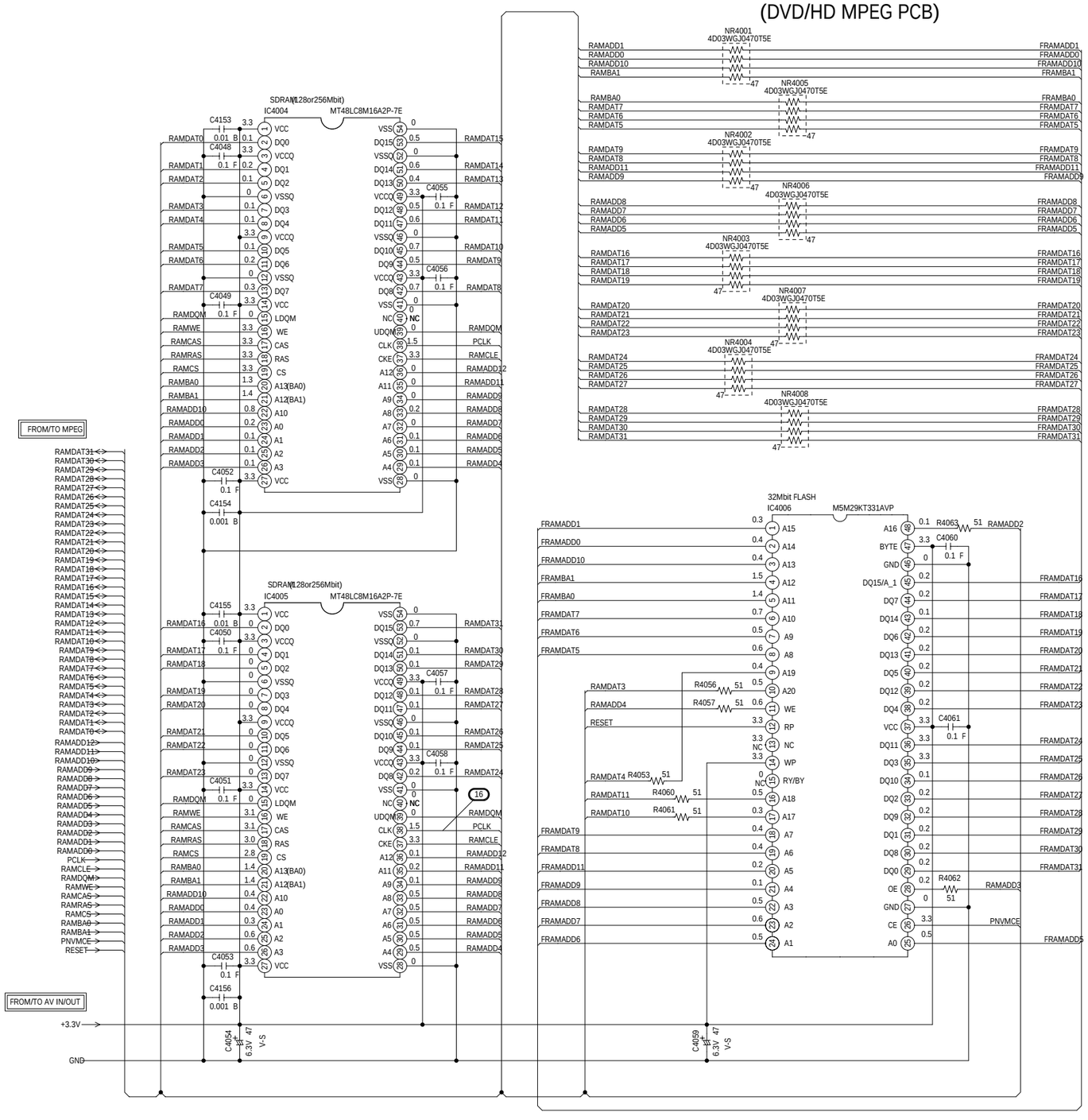


NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE。

NOTE: THE DC VOLTAGE EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK.

MEMORY SCHEMATIC DIAGRAM

(DVD/HD MPEG PCB)



NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE。

NOTE: THE DC VOLTAGE EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK.

ATAPI SCHEMATIC DIAGRAM

(DVD/HD MPEG PCB)

ATAPI FFC

CP4001
40FY-SMT(SN)(LF)

1	DRVRST	1
2	GND	
3	ATDD7	3
4	ATDD8	4
5	ATDD6	5
6	ATDD9	6
7	ATDD5	7
8	ATDD10	8
9	ATDD4	9
10	ATDD11	10
11	ATDD3	11
12	ATDD12	12
13	ATDD2	13
14	ATDD13	14
15	ATDD1	15
16	ATDD14	16
17	ATDD0	17
18	ATDD15	18
19	GND	
20	NC	NC
21	ATDMARQ	21
22	GND	
23	ATDIOW	23
24	GND	
25	ATDIOR	25
26	GND	
27	ATIORDY	27
28	GND	
29	ATDMACK	29
30	GND	
31	ATINTRQ	31
32	NC	NC
33	ATDA1	33
34	NC	NC
35	ATDA0	35
36	ATDA2	36
37	ATCS0	37
38	ATCS1	38
39	ACTIVE	NC
40	GND	

CD4001
BH040121

DK4001
⚠ DVR-R09OR_Q

R4067 10K
R4095 33
R4096 4.7K

DRVRST

R4068	33	ATDD7
R4069	33	ATDD8
R4070	33	ATDD6
R4071	33	ATDD9
R4072	33	ATDD5
R4073	33	ATDD10
R4074	33	ATDD4
R4075	33	ATDD11
R4076	33	ATDD3
R4077	33	ATDD12
R4078	33	ATDD2
R4079	33	ATDD13
R4080	33	ATDD1
R4081	33	ATDD14
R4082	33	ATDD0
R4083	33	ATDD15
R4084	82	ATDMARQ
R4085	22	ATIOW
R4092	22	ATIOR
R4093	82	ATIORDY
R4094	22	ATDMACK
R4086	82	ATINTRQ
R4087	33	ATDA1
R4088	33	ATDA0
R4089	33	ATDA2
R4090	33	ATCS0
R4091	33	ATCS1

R4064 5.6K
R4110 10K
R4117 10K

FROM/TO MPEG

DRVRST
ATDMARQ
ATIOW
ATIOR
ATIORDY
ATDMACK
ATINTRQ
ATDA1
ATDA0
ATCS0
ATDD0
ATDD1
ATDD2
ATDD3
ATDD4
ATDD5
ATDD6
ATDD7
ATDD8
ATDD9
ATDD10
ATDD11
ATDD12
ATDD13
ATDD14
ATDD15
ATDA2
ATCS1

FROM/TO AV IN/OUT

D5V
GND

1 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 21 23 25 27 29 31 33 35 36 37 38

PCBB10
DME047

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE 。

NOTE: THE DC VOLTAGE EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK.

CAUTION SINCE THESE PARTS MARKED BY ⚠ ARE CRITICAL FOR SAFETY,USE ONES DESCRIBED IN PARTS LIST ONLY 。

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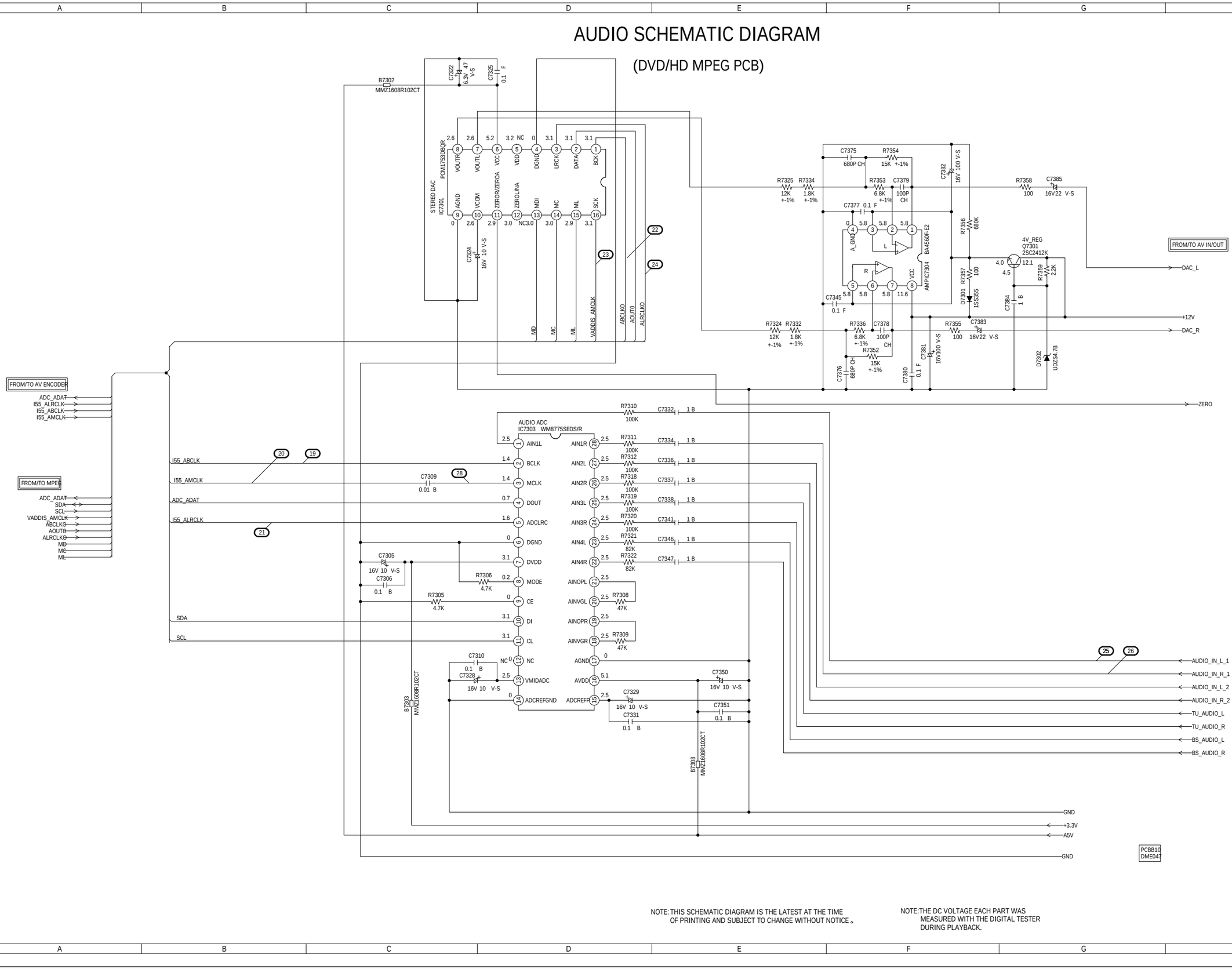
AUDIO SCHEMATIC DIAGRAM

(DVD/HD MPEG PCB)



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AV IN/OUT SCHEMATIC DIAGRAM (DVD/HD MPEG PCB)

FROM/TO AUDIO

ZERO
DAC_L
DAC_R
BS_AUDIO_L
BS_AUDIO_R
TU_AUDIO_L
TU_AUDIO_R
AUDIO_IN_L_2
AUDIO_IN_R_2
AUDIO_IN_L_1
AUDIO_IN_R_1
GND
GND
+3.3V
A5V
+12V

FROM/TO AV ENCODER

GND
YIN
CIN
CVBSIN
GND
+3.3V
+1.8V
D5V

FROM/TO MPEG

VIDEO_IN_SEL
U_B
V_R
Y_G
CVBS
Y
C
MUTE
SPDIF
EXT_RESET

VADDIS_INT
ASP1
ASP2
P-H/I-L
SDA
SCL

FPCDOUT
FPCCLK
FPCDIN
MPEG_CS

+3.3V
D5V
+1.8V
GND

FROM/TO ATAPI

GND
D5V

FROM/TO MEMORY

+3.3V
GND

R7331 51, C7358 0.47 B, C7371 18P CH, L7307 6.8uH, R7340 51, R7327 51, R7337 100K, C7361 56P CH, C7364 82P CH → 27

R7333 51, C7359 0.47 B, C7372 18P CH, L7308 6.8uH, R7341 51, R7323 51, R7338 100K, C7362 56P CH, C7365 82P CH → 28

R7335 51, C7360 0.47 B, C7373 18P CH, L7309 6.8uH, R7342 51, R7326 51, R7339 100K, C7363 56P CH, C7366 82P CH

TU/EXT VIDEO SW IC
IC7302 MM1501XNRE
0, 2.6, 5.2, 3.0, 0, 3.0
BUFFER, BIAS, Vcc
→ 29, 30

C7369 6.3V 47 V-S
C7370 6.3V 47 V-S
C7367 6.3V 47 V-S
C7368 0.1 F

V_R
C7318 12P CH, L7305 1uH, R7313 75 +-1%, C7316 150P CH, C7321 150P CH

U_B
C7308 12P CH, L7303 1uH, R7304 75 +-1%, C7303 150P CH, C7313 150P CH

Y_G
C7307 12P CH, L7302 1uH, R7303 75 +-1%, C7302 150P CH, C7312 150P CH

CVBS
C7319 12P CH, L7306 1uH, R7314 75 +-1%, C7317 150P CH, C7323 150P CH

Y
C7304 12P CH, L7301 1uH, C7301 150P CH, C7311 150P CH

C
C7315 12P CH, L7304 1uH, R7302 75 +-1%, C7314 150P CH, C7320 150P CH, R7348 75, R7350 75, R7307 75 +-1%

→ 31, 32, 33, 17, 34, 18

FROM/TO AV IN/OUT 2

CP7301 (CP8301) 04_6232_120_103_800+

BS_AUDIO_L	VCR AUDIO L	1
	GND	2
BS_AUDIO_R	VCR AUDIO R	3
	GND	4
TU_AUDIO_L	TU AUDIO L	5
	GND	6
TU_AUDIO_R	TU AUDIO R	7
	GND	8
AUDIO_IN_L_2	REAR AUDIO L	9
	GND	10
AUDIO_IN_R_2	REAR AUDIO R	11
	GND	12
AUDIO_IN_L_1	FRONT AUDIO L	13
	GND	14
AUDIO_IN_R_1	FRONT AUDIO R	15
	GND	16
Y_VIDEO_IN	F/R Y IN	17
	GND	18
C_VIDEO_IN	F/R C IN	19
	GND	20

CD7301 → 2H0K1802

CP7302 (CP8302) 04_6232_120_103_800+

TU_VIDE0	BS/TU V IN	1
	GND	2
	V/R_OUT	3
	GND	4
	U/B_OUT	5
	GND	6
	Y/G_OUT	7
	GND	8
	Y_OUT	9
	GND	10
	CVBS_OUT	11
	GND	12
	C_OUT	13
	GND	14
DAC_L	AUDIO_L_OUT	15
	GND	16
DAC_R	AUDIO_R_OUT	17
	GND	18
COMPOSITE_IN	CVBS_IN	19
	GND	20

CD7302 → 2H0K1802

CP7303 (CP8303) 04_6232_115_103_800+

ZERO	ZERO	1
MUTE	MUTE	2
ASP1	ASP1	3
ASP2	ASP2	4
P-H/I-L	P-H/I-L	5
SPDIF	SPDIF	6
VADDIS_INT	VADDIS INT	7
SDA	IIC_DATA	8
SCL	IIC_CLK	9
EXT_RESET	RESET	10
MPEG_CS	MPEG CS	11
FPCCLK	MPEG CLK	12
FPCDIN	MPEG DATA IN	13
FPCDOUT	MPEG DATA OUT	14
	GND	15

CD7303 → 2H0F1801

C7348 100P CH, C7342 100P CH, C7343 100P CH, C7344 100P CH, C7374 100P CH

FROM/TO REGULATOR

CP7304 (CP1703) A2001WV2-10P

+1.8V	+1.8V	1
	+1.8V	2
	+12V	3
NC	+12V	4
+3.3V	+3.3V	5
	+3.3V	6
D5V	MPEG5V	7
	GND	8
A5V	GND	9
	GND	10

CD7304 → C32A3702

PCBB10 DME047

C7330 0.001 B, C7339 0.1 F, C7340 0.1 F, C7349 0.1 F

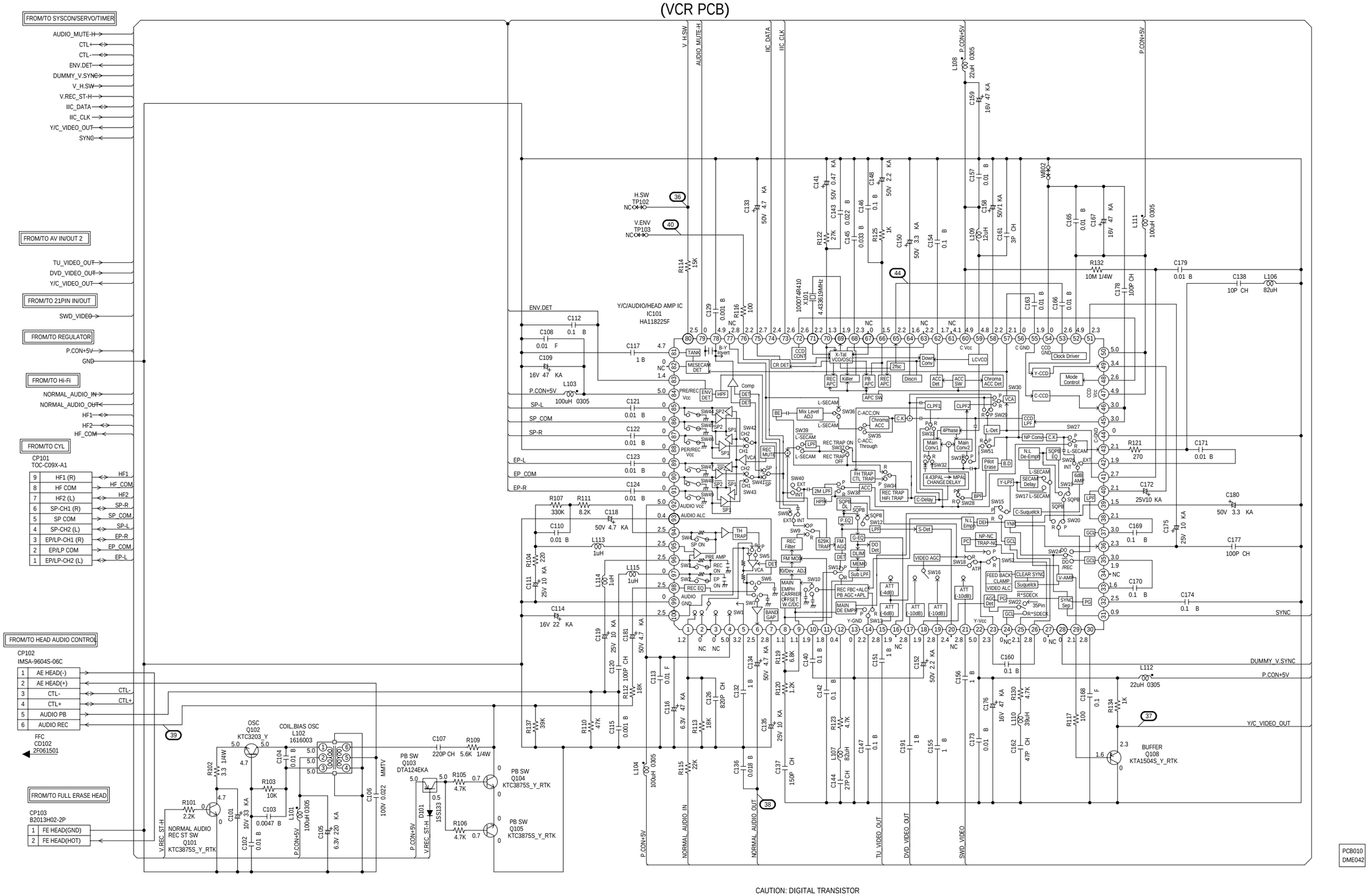
+1.8V: B7307 HCB2012K-600T25, B7309 MMZ1608R102CT
+3.3V: B7305 HCB2012K-600T25
D5V: B7304 HCB2012K-600T25
A5V: B7306 HCB2012K-600T25

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE。

NOTE: THE DC VOLTAGE EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK.

Y/C/AUDIO/HEAD AMP SECAM SCHEMATIC DIAGRAM

(VCR PCB)



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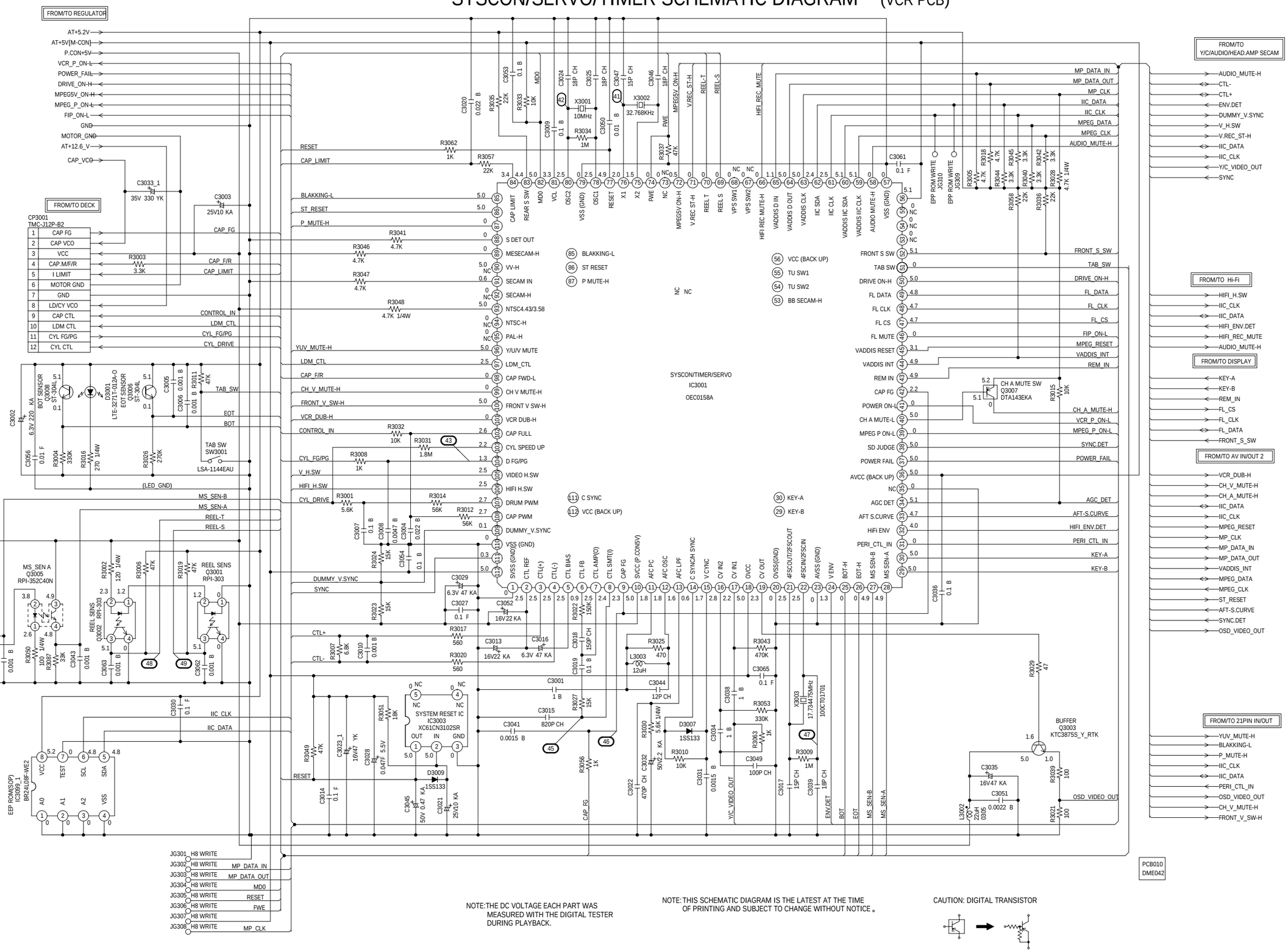
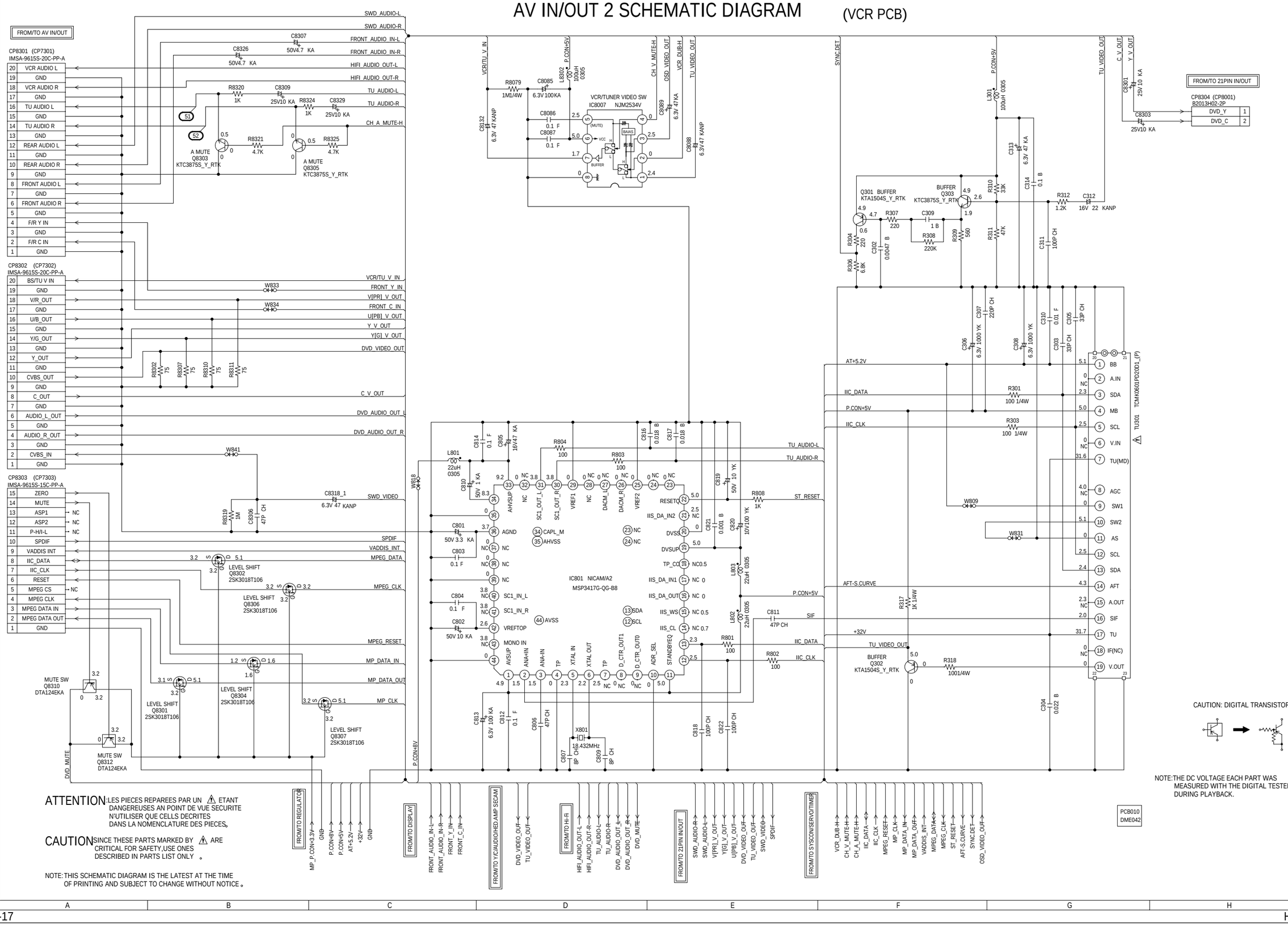
CAUTION: DIGITAL TRANSISTOR

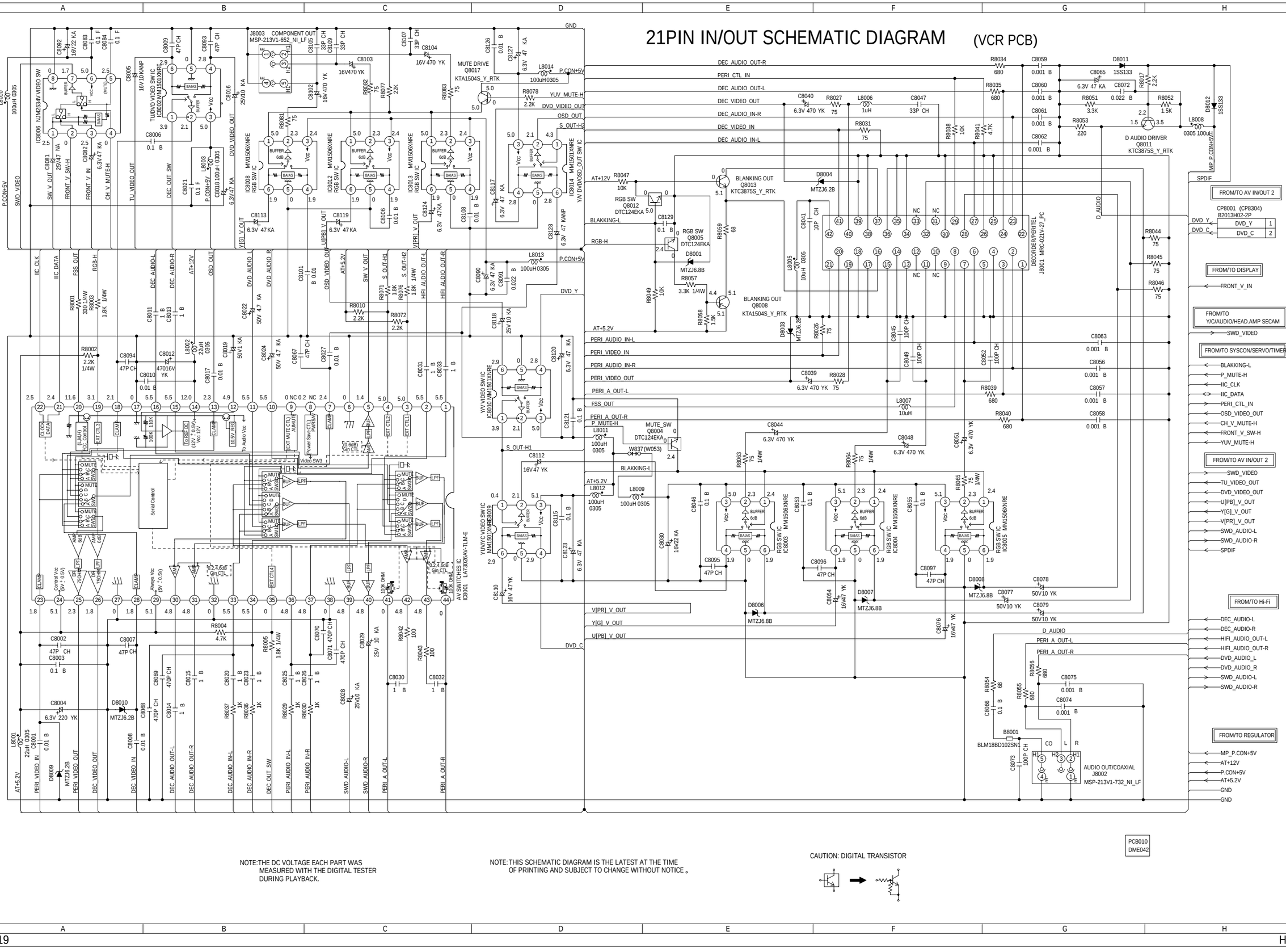
SYSCON/SERVO/TIMER SCHEMATIC DIAGRAM (VCR PCB)



AV IN/OUT 2 SCHEMATIC DIAGRAM (VCR PCB)

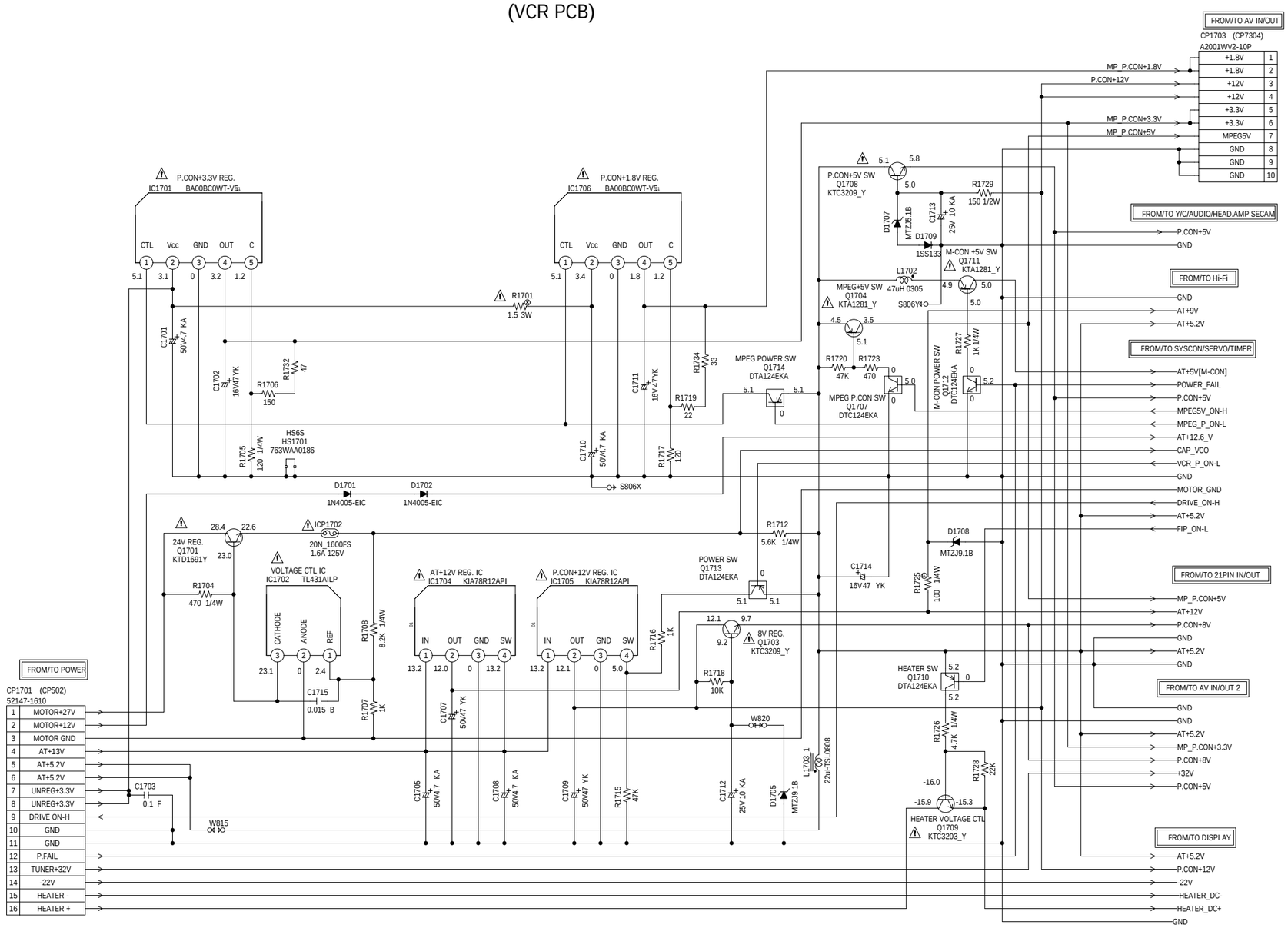


21PIN IN/OUT SCHEMATIC DIAGRAM (VCR PCB)



REGULATOR SCHEMATIC DIAGRAM

(VCR PCB)



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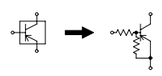
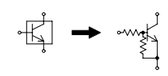
CAUTION: DIGITAL TRANSISTOR

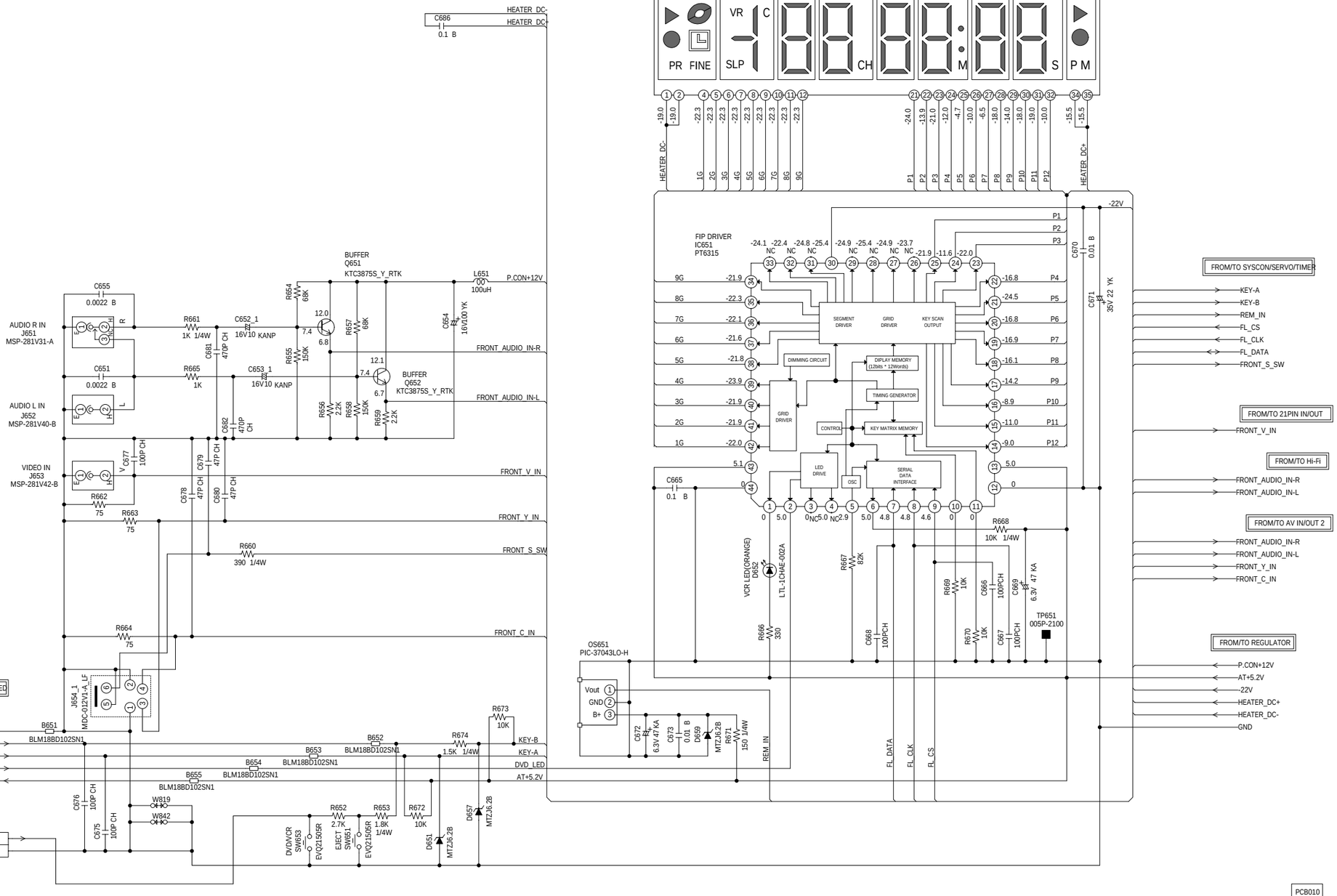


CAUTION: DIGITAL TRANSISTOR



DISPLAY SCHEMATIC DIAGRAM

(VCR PCB)

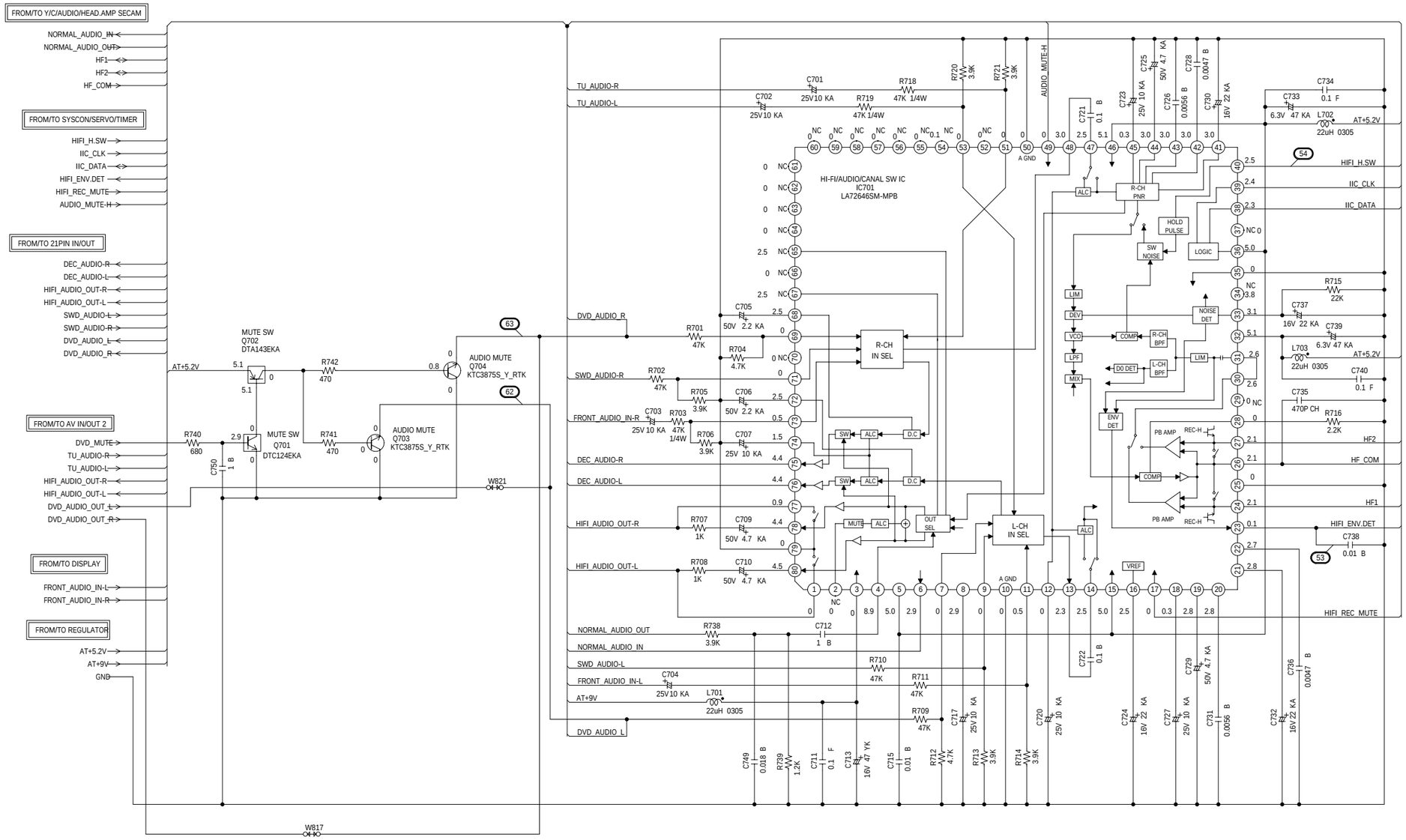


NOTE:THE DC VOLTAGE EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK.

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE。

Hi-Fi SCHEMATIC DIAGRAM

(VCR PCB)



NOTE:THE DC VOLTAGE EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK.

NOTE:THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE 。

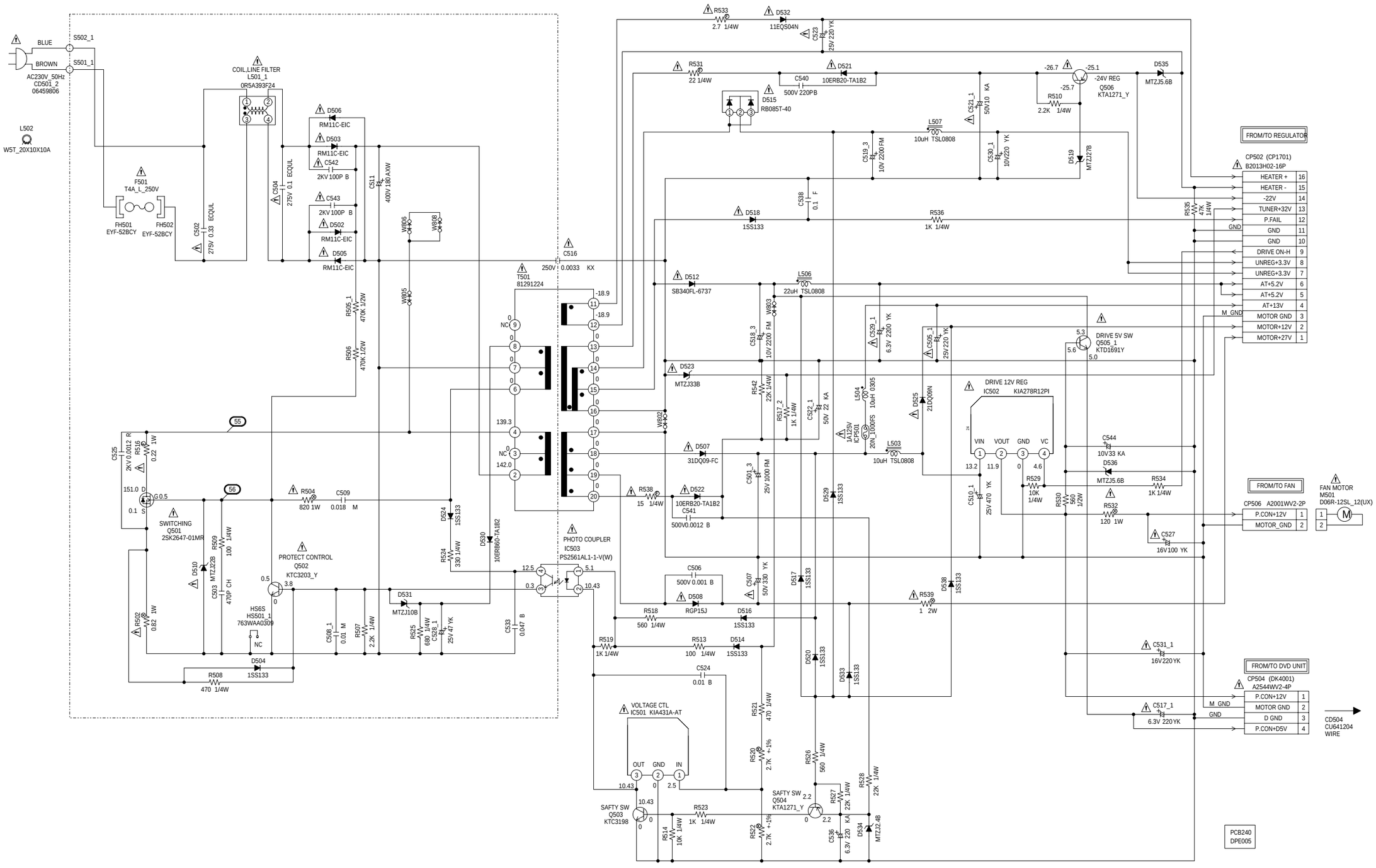
CAUTION: DIGITAL TRANSISTOR

CAUTION: DIGITAL TRANSISTOR

PCB010
DME042

POWER SCHEMATIC DIAGRAM

(POWER PCB)



CAUTION SINCE THESE PARTS MARKED BY ⚠ ARE CRITICAL FOR SAFETY,USE ONES DESCRIBED IN PARTS LIST ONLY 。

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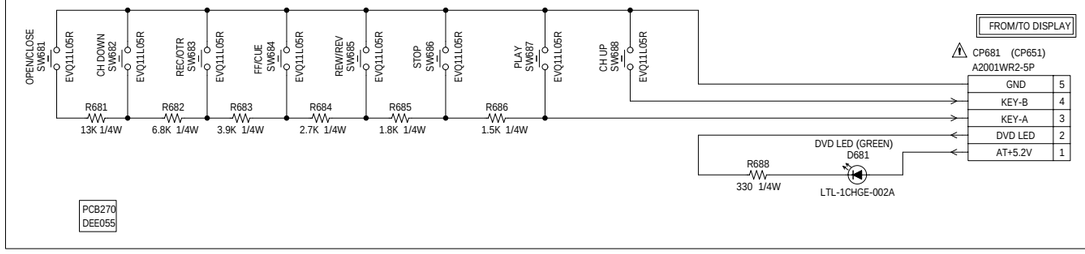
NOTE: THE DC VOLTAGE EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK.

OPERATION/LED SCHEMATIC DIAGRAM

(OPERATION1 PCB)



(OPERATION2 PCB)

CAUTION SINCE THESE PARTS MARKED BY ⚠ ARE CRITICAL FOR SAFETY,USE ONES DESCRIBED IN PARTS LIST ONLY 。

ATTENTION:LES PIECES REPAREES PAR UN ⚠ ETANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES PIECES。

NOTE:THE DC VOLTAGE EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK.

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INTERCONNECTION DIAGRAM

DVD LOADER UNIT ⚠ DK4001

DRVRST	1
GND	2
ATDD7	3
ATDD8	4
ATDD6	5
ATDD9	6
ATDD5	7
ATDD10	8
ATDD4	9
ATDD11	10
ATDD3	11
ATDD12	12
ATDD2	13
ATDD13	14
ATDD1	15
ATDD14	16
ATDD0	17
ATDD15	18
GND	19
NC	20
ATDMARQ	21
GND	22
ATDIOW	23
GND	24
ATDIOR	25
GND	26
ATIORDY	27
GND	28
ATDMACK	29
GND	30
ATINTRQ	31
NC	32
ATDA1	33
NC	34
ATDA0	35
ATDA2	36
ATCS0	37
ATCS1	38
NC	39
GND	40

CD4001 FFC — ATAPI CP4001

DVD/HD MPEG PCB PCBB10 DME047

CD7304 WIRE — CP7304

+1.8V	1
+1.8V	2
+12V	3
+12V	4
+3.3V	5
+3.3V	6
MPEG5V	7
GND	8
GND	9
GND	10

CD7301 FFC

CP7301			CP8301
VCR AUDIO L	1	20	VCR AUDIO L
GND	2	19	GND
VCR AUDIO R	3	18	VCR AUDIO R
GND	4	17	GND
TU AUDIO L	5	16	TU AUDIO L
GND	6	15	GND
TU AUDIO R	7	14	TU AUDIO R
GND	8	13	GND
REAR AUDIO L	9	12	REAR AUDIO L
GND	10	11	GND
REAR AUDIO R	11	10	REAR AUDIO R
GND	12	9	GND
FRONT AUDIO L	13	8	FRONT AUDIO L
GND	14	7	GND
FRONT AUDIO R	15	6	FRONT AUDIO R
GND	16	5	GND
F/R Y IN	17	4	F/R Y IN
GND	18	3	GND
F/R C IN	19	2	F/R C IN
GND	20	1	GND

CD7302 FFC

CP7302			CP8302
BS/TU V IN	1	20	BS/TU V IN
GND	2	19	GND
V/R_OUT	3	18	V/R_OUT
GND	4	17	GND
U/B_OUT	5	16	U/B_OUT
GND	6	15	GND
Y/G_OUT	7	14	Y/G_OUT
GND	8	13	GND
Y_OUT	9	12	Y_OUT
GND	10	11	GND
CVBS_OUT	11	10	CVBS_OUT
GND	12	9	GND
C_OUT	13	8	C_OUT
GND	14	7	GND
AUDIO_L_OUT	15	6	AUDIO_L_OUT
GND	16	5	GND
AUDIO_R_OUT	17	4	AUDIO_R_OUT
GND	18	3	GND
CVBS_IN	19	2	CVBS_IN
GND	20	1	GND

CD7303 FFC

CP7303			CP8303
ZERO	1	15	ZERO
MUTE	2	14	MUTE
ASP1	3	13	ASP1
ASP2	4	12	ASP2
P-H/I-L	5	11	P-H/I-L
SPDIF	6	10	SPDIF
VADDIS INT	7	9	VADDIS INT
IIC_DATA	8	8	IIC_DATA
IIC_CLK	9	7	IIC_CLK
RESET	10	6	RESET
MPEG CS	11	5	MPEG CS
MPEG CLK	12	4	MPEG CLK
MPEG DATA IN	13	3	MPEG DATA IN
MPEG DATA OUT	14	2	MPEG DATA OUT
GND	15	1	GND

CP4007

1	RESET
2	GND
3	BOOT0
4	BOOT1
5	TD
6	RD
7	5V

CD504 WIRE — CP504

P.CON+12V	1
MOTOR GND	2
D GND	3
P.CON+D5V	4

CP502 — WIRE — CP1701

MOTOR+27V	1	1	MOTOR+27V
MOTOR+12V	2	2	MOTOR+12V
MOTOR GND	3	3	MOTOR GND
AT+13V	4	4	AT+13V
AT+5.2V	5	5	AT+5.2V
AT+5.2V	6	6	AT+5.2V
UNREG+3.3V	7	7	UNREG+3.3V
UNREG+3.3V	8	8	UNREG+3.3V
DRIVE ON-H	9	9	DRIVE ON-H
GND	10	10	GND
GND	11	11	GND
P.FAIL	12	12	P.FAIL
TUNER+32V	13	13	TUNER+32V
-22V	14	14	-22V
HEATER -	15	15	HEATER -
HEATER +	16	16	HEATER +

⚠ M501 FAN MOTOR — CP506

P.CON+12V	1
MOTOR_GND	2

⚠ CD501_2 AC230V_50HZ BLUE S502_1 BROWN S501_1 — POWER PCB PCB240 DPE005

CP1703

+1.8V	1
+1.8V	2
+12V	3
+12V	4
+3.3V	5
+3.3V	6
MPEG5V	7
GND	8
GND	9
GND	10

OPERATION2 PCB PCB280 DEE056 — CD691 (KEY-B, GND) — CD691 WIRE — CP654 (KEY-B, GND)

OPERATION1 PCB PCB270 DEE055 — CP681 (GND, KEY-B, KEY-A, DVD LED, AT+5.2V) — CD651 WIRE — CP651 (GND, KEY-B, KEY-A, DVD LED, AT+5.2V)

COMMAND TRANSMITTER TM601 — OS651 (Vout, GND, B+)

FULL ERASE HEAD ASS'Y — H5002 (FE HEAD (HOT), FE HEAD (GND)) — WIRE — CP103 (FE HEAD (HOT), FE HEAD (GND))

CP8304 — C8001

DVD_Y	1	1	DVD_Y
DVD_C	2	2	DVD_C

VCR PCB PCB010 DME042

DECORDER/PERITEL J8001

FRONT IN JACK VIDEO J653 — FRONT IN JACK AUDIO IN L J652 — FRONT IN JACK AUDIO IN R J651 — FRONT IN JACK S VIDEO J654_1

COMPONENT OUT J8003 — DVD AUDIO OUT COAXIAL J8002

⚠ TU301

V.OUT	19
IF(NC)	18
TU	17
SIF	16
A.OUT	15
AFT	14
SDA	13
SCL	12
AS	11
SW1	10
SW2	9
AGC	8
TU(MD)	7
V.IN	6
SCL	5
MB	4
SDA	3
A.IN	2
BB	1

HALL SENSOR, MAIN COIL, ROTOR MAGNET, MR FG SENSOR (VCC, O, G) — HALL VCC, HALL IN, OUT SWITCH LOGIC

CP3001

CAP FG	1
CAP VCO	2
VCC	3
CAP.M/F/R	4
I LIMIT	5
MOTOR GND	6
GND	7
LD/CY VCO	8
CAP CTL	9
LDM CTL	10
CYL FG/PG	11
CYL CTL	12

⚠ CAPSTAN DD UNIT M2001

FFC — RED — WHITE — LM — ⚠ LOADING MOTOR M101

D-FG GND, D-FG OUT, M-GND, D-COM, D-W OUT, D-V OUT, D-U OUT — ⚠ UN4001 CYLINDER UNIT

CP101 — FPC

HF1 (R)	9	9	HI-FI HEAD
HF COM	8	8	
HF2 (L)	7	7	
SP-CH1 (R)	6	6	SP HEAD
SP COM	5	5	
SP-CH2 (L)	4	4	
EP/LP-CH1 (R)	3	3	EP/LP HEAD
EP/LP COM	2	2	
EP/LP-CH2 (L)	1	1	

CP102 — CD102 FFC — HEAD AUDIO CONTROL ASS'Y H5001

AUDIO REC	6	6	AUDIO
AUDIO PB	5	5	
CTL+	4	4	CONTROL
CTL-	3	3	
AE HEAD(+)	2	2	AE
AE HEAD(-)	1	1	

CAUTION SINCE THESE PARTS MARKED BY ⚠ ARE CRITICAL FOR SAFETY,USE ONES DESCRIBED IN PARTS LIST ONLY 。

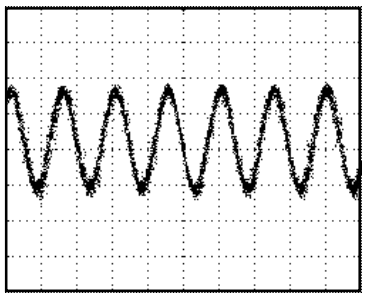
ATTENTION :LES PIECES REPAREES PAR UN ⚠ ETANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES PIECES。

NOTE: THIS INTERCONNECTION DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE 。

WAVEFORMS

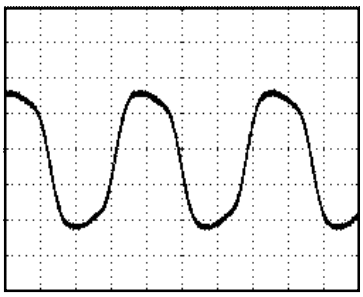
AV ENCODER

5ns
500mV



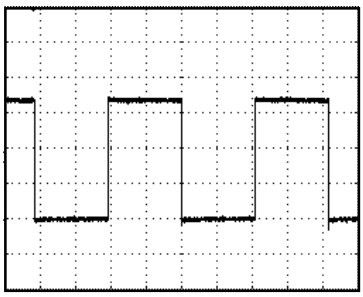
①

10ns
1.0V



⑥

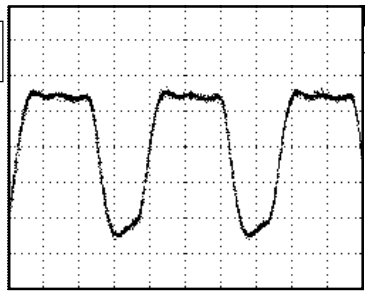
5µs
1.0V



⑪

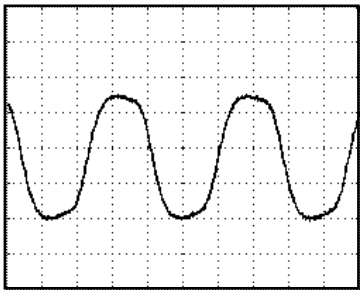
MPEG

10ns
1.0V



②

10ns
1.0V

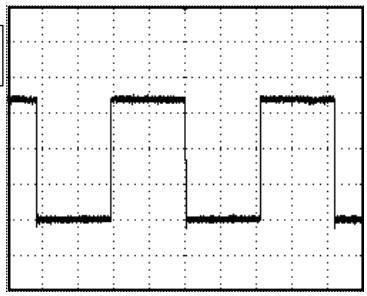


⑦

100ns
1.0V

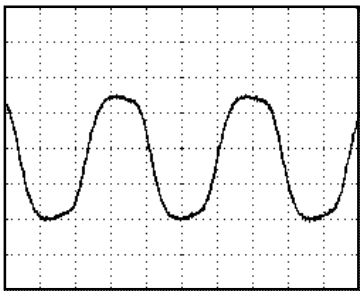
⑫

5µs
1.0V



③

10ns
1.0V

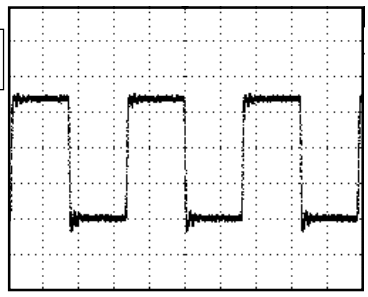


⑧

100ns
1.0V

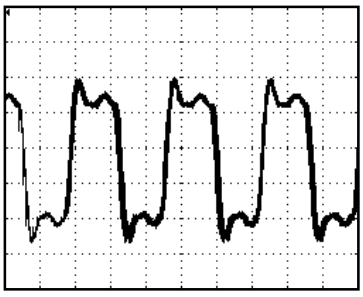
⑬

100ns
1.0V



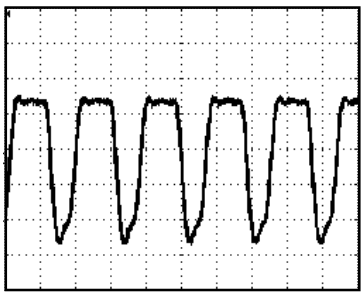
④

20ns
1.0V



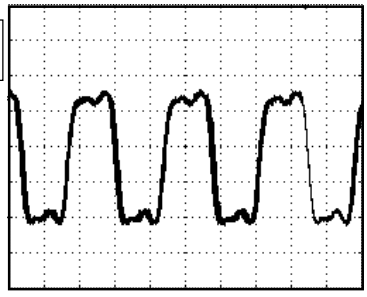
⑨

20ns
1.0V



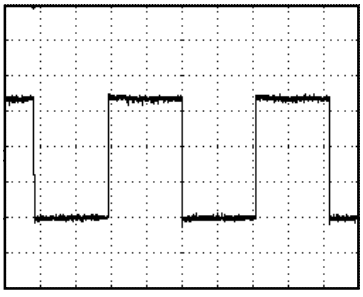
⑭

20ns
1.0V



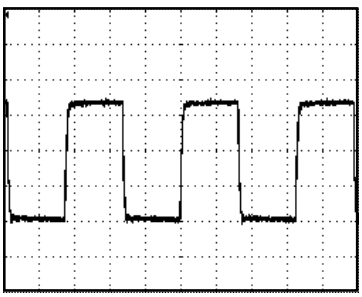
⑤

5µs
1.0V



⑩

200ns
1.0V



⑮

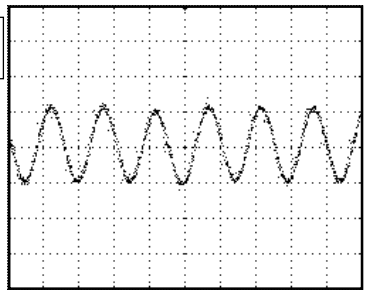
NOTE: The following waveforms were measured at the point of the corresponding balloon number in the schematic diagram.

WAVEFORMS

MEMORY

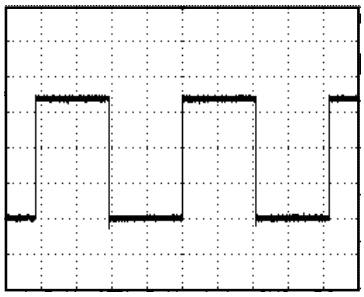
5ns
500mV

⑯



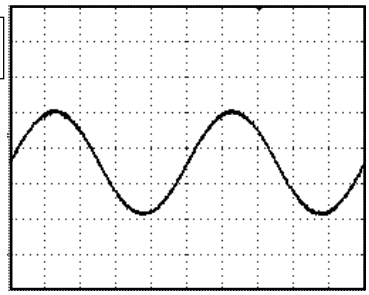
5µs
1.0V

㉑



200µs
1.0V

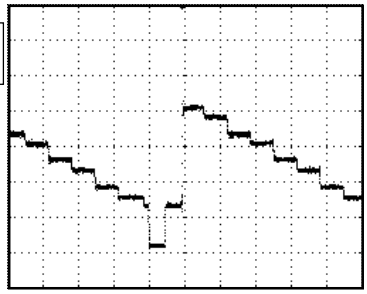
㉖



AV IN/OUT

10µs
500mV

⑰



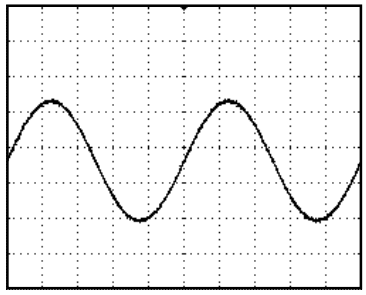
100ns
1.0V

㉒

AV IN/OUT

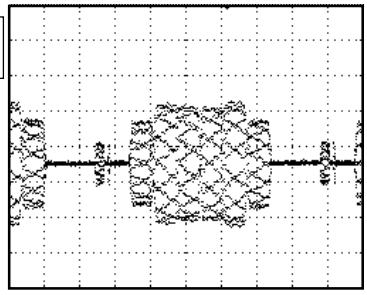
10µs
200mV

㉗



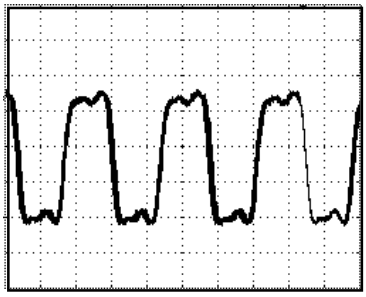
10µs
500mV

⑱



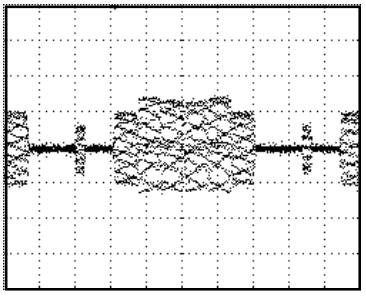
20ns
1.0V

㉓



10µs
200mV

㉘



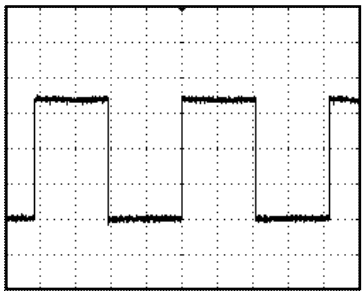
AUDIO

100ns
1.0V

⑲

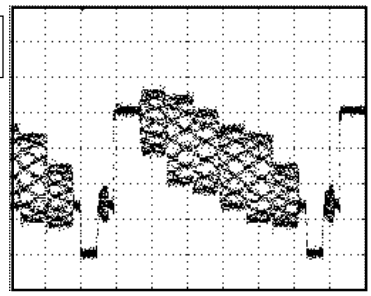
5µs
1.0V

㉔



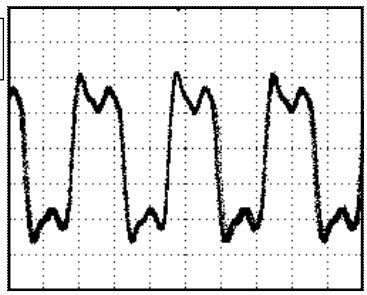
10µs
200mV

㉙



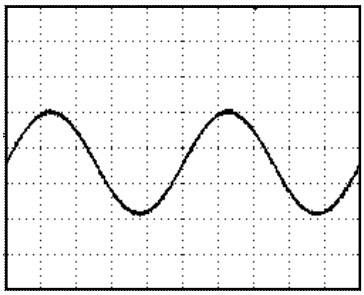
20ns
1.0V

⑳



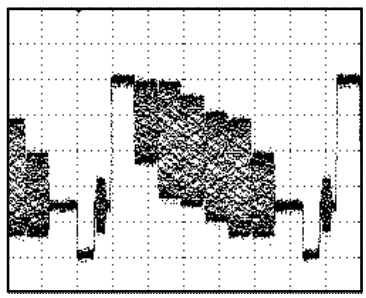
200µs
1.0V

㉕



10µs
200mV
EE

㉚

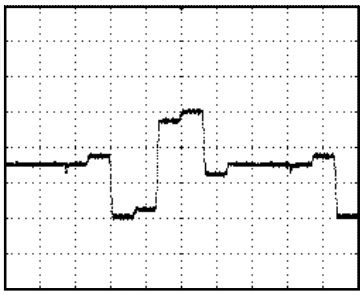


NOTE: The following waveforms were measured at the point of the corresponding balloon number in the schematic diagram.

WAVEFORMS

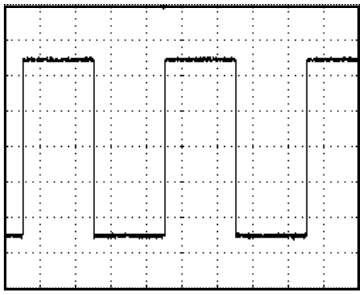
SYSCON/SERVO/TIMER

10µs
500mV



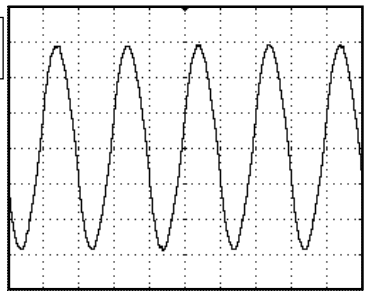
31

10ms
100mV
PB



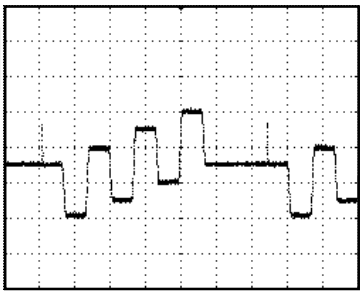
36

50ns
50mV
STOP



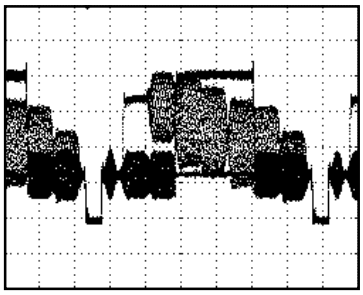
41

10µs
500mV



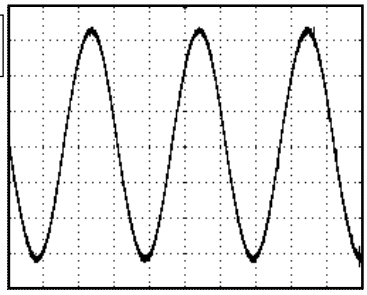
32

10µs
50mV
PB



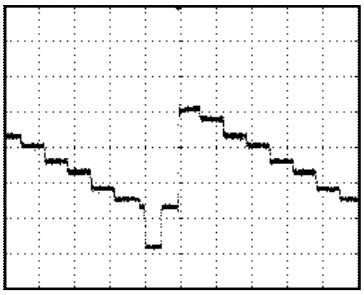
37

10µs
20mV
STOP



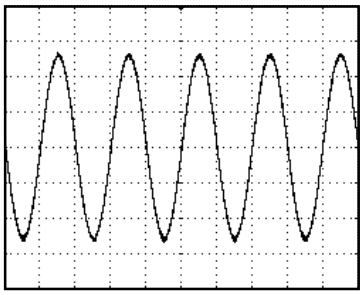
42

10µs
500mV



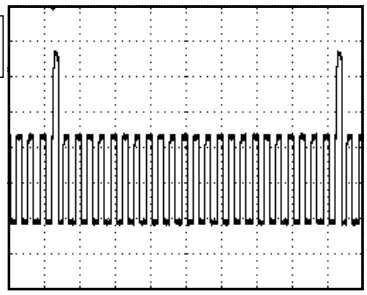
33

500µs
20mV
STOP



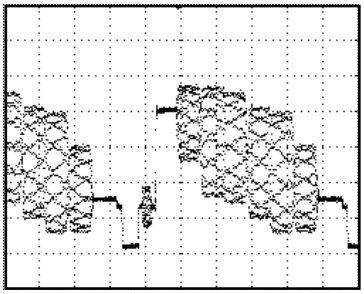
38

5ms
100mV
PB



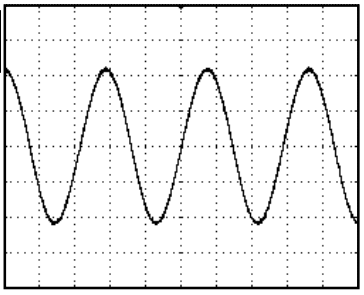
43

10µs
500mV



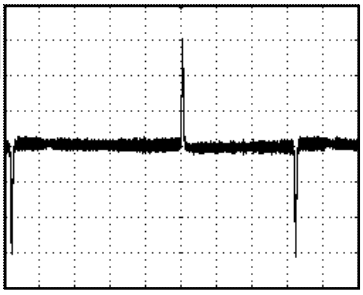
34

5µs
1.0V
REC



39

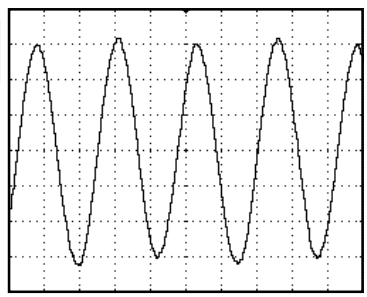
5ms
50mV
PB



45

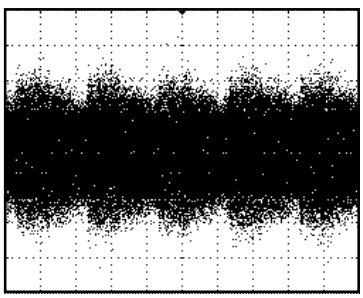
Y/C/AUDIO/HEAD AMP

50ns
5.0mV
STOP



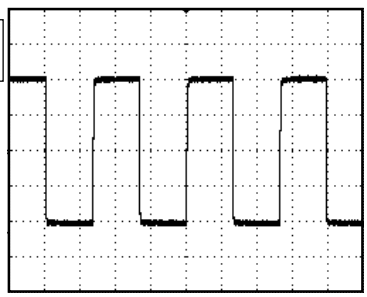
35

10ms
200mV
PB



40

500µs
100mV
PB



46

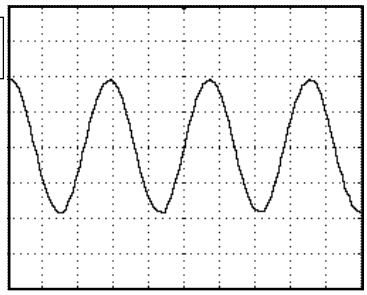
NOTE: The following waveforms were measured at the point of the corresponding balloon number in the schematic diagram.

WAVEFORMS

Hi-Fi

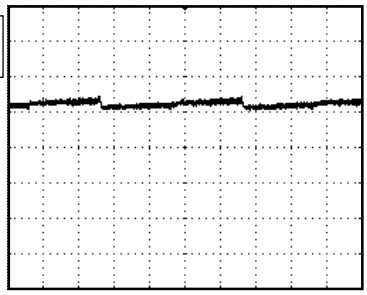
20ns
50mV
STOP

47



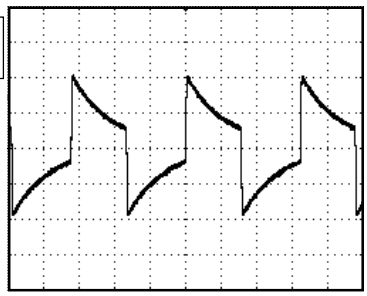
10ms
100mV
PB

53



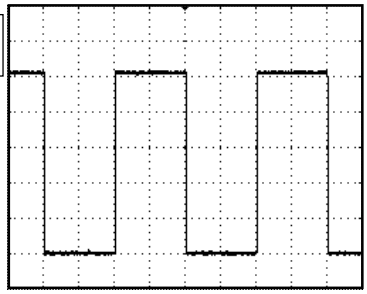
200ms
200mV
PB

48



10ms
100mV
PB

54



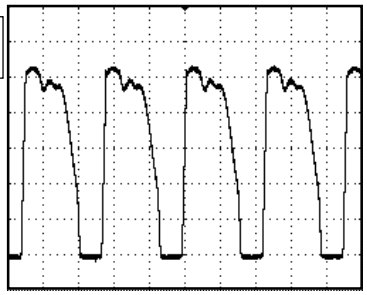
POWER

500ms
200mV
PB

49

5µs
10V
STOP

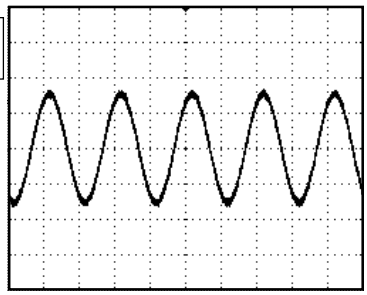
55



AV IN/OUT 2

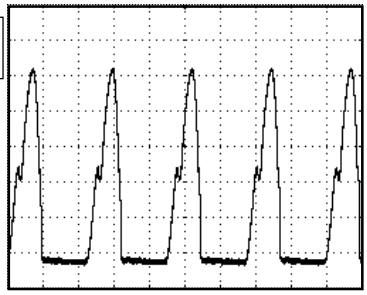
50µs
50mV
STOP

51



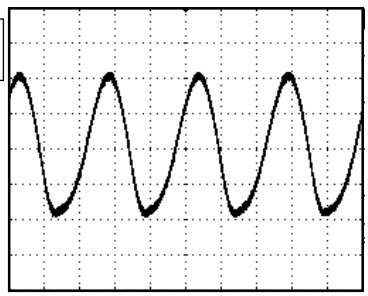
5µs
200mV
STOP

56



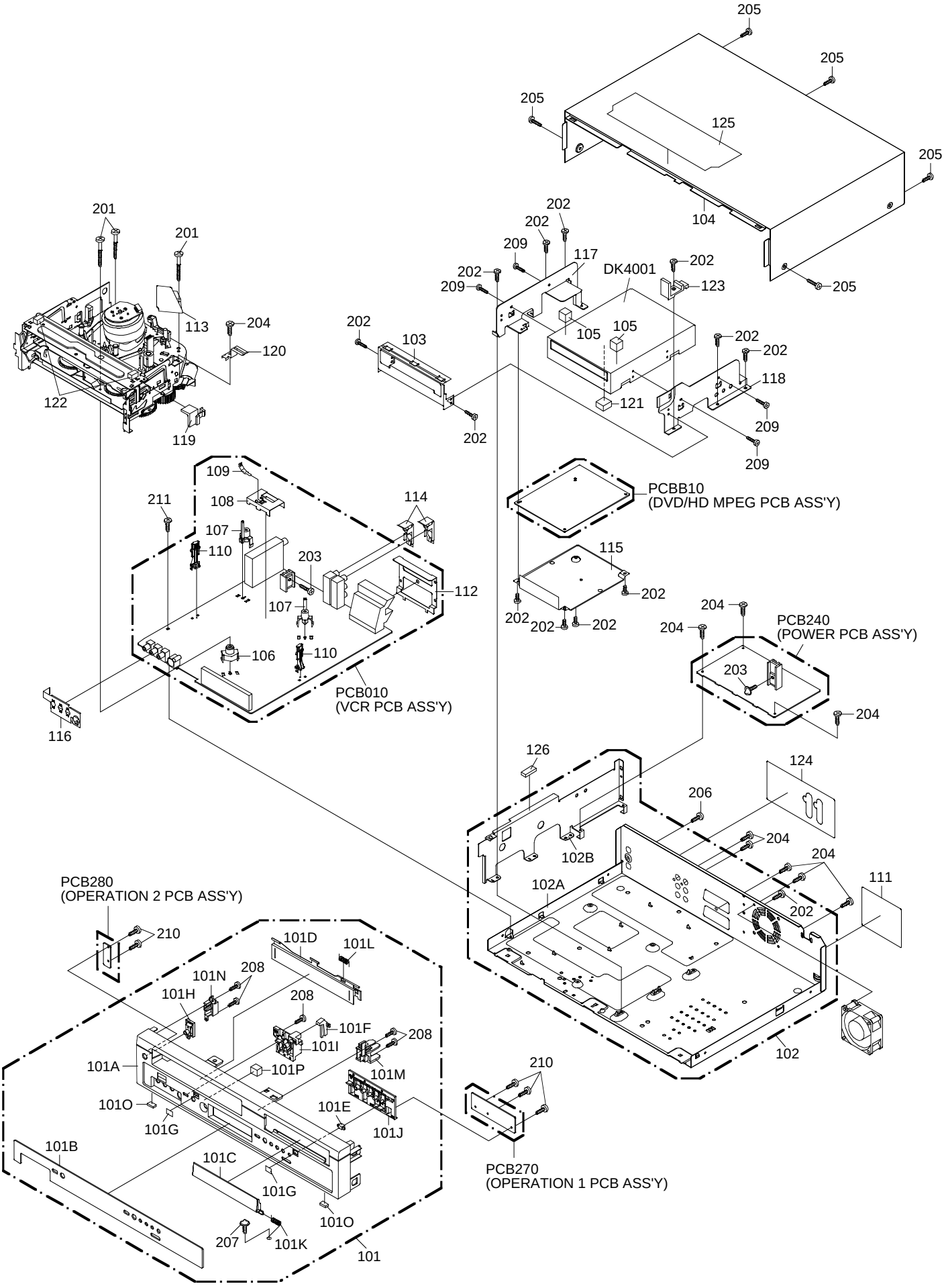
200µs
50mV
STOP

52

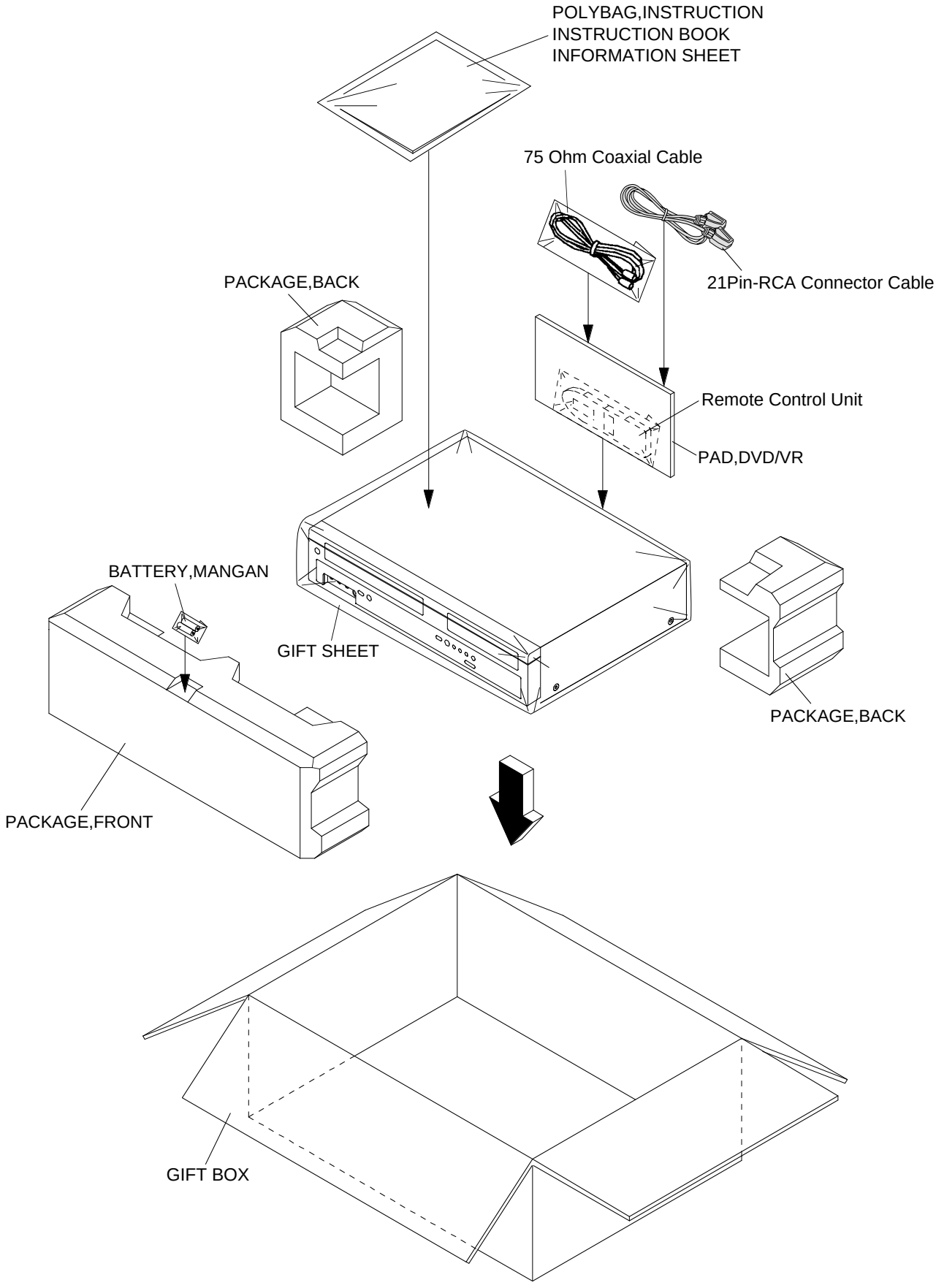


NOTE: The following waveforms were measured at the point of the corresponding balloon number in the schematic diagram.

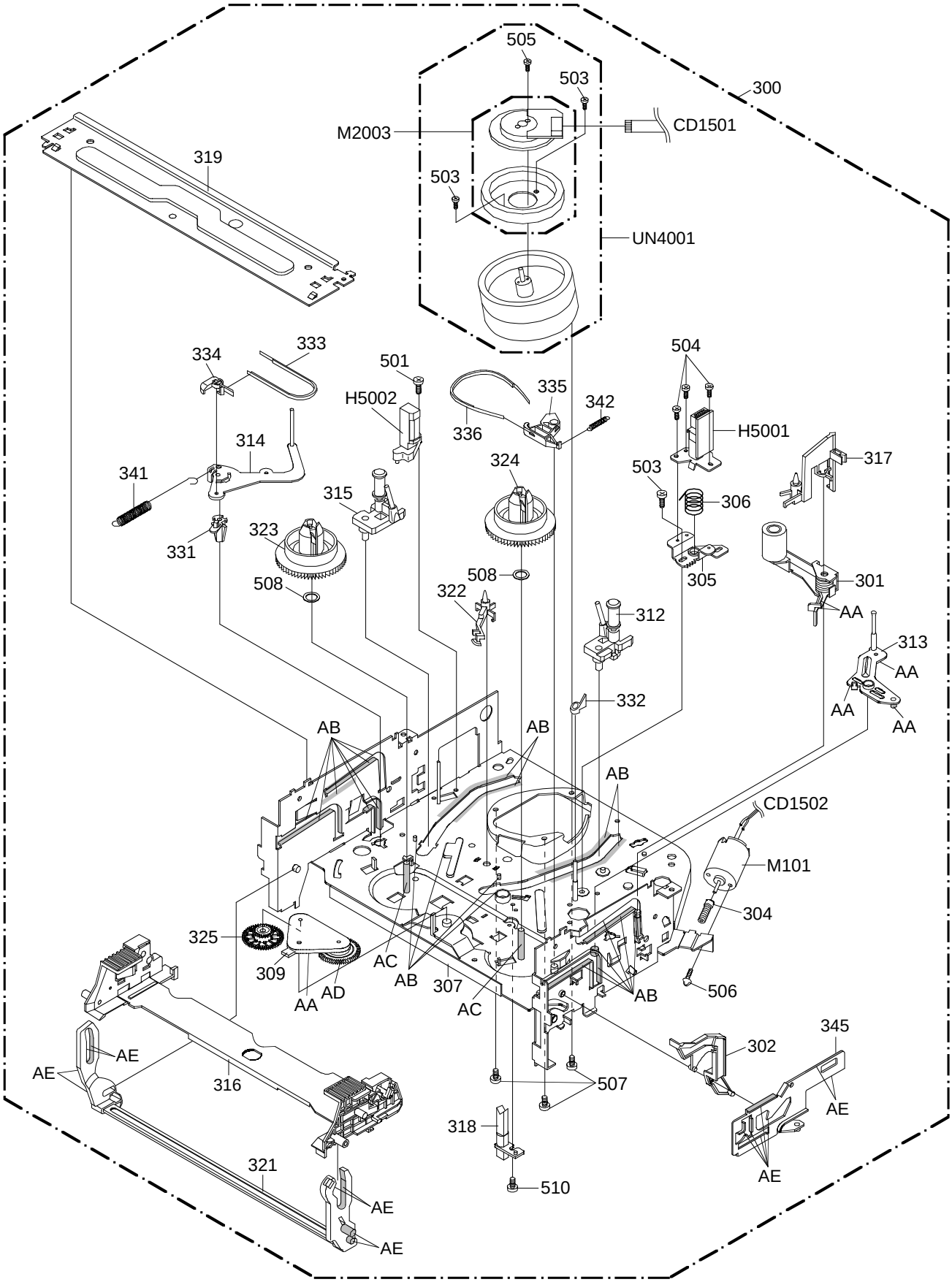
MECHANICAL EXPLODED VIEW



MECHANICAL EXPLODED VIEW
(PACKING DIAGRAM)



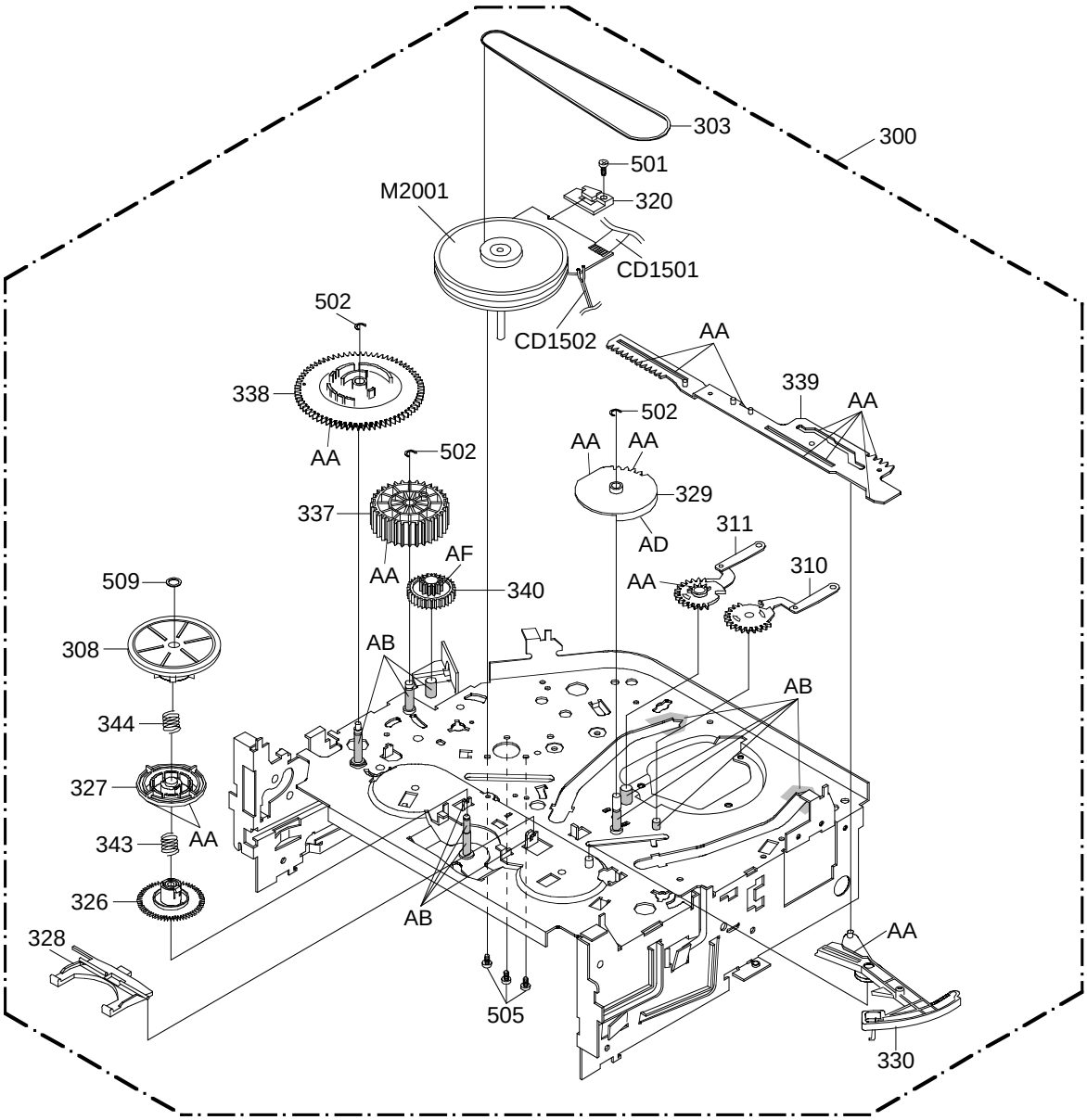
CHASSIS EXPLODED VIEW (TOP VIEW)



CLASS	PART NO.	PART NAME	MARK
GREASE	9JDY315061000	G-555G	AA
	9JDY315071000	MG-33	AB
	9JDY31D011000	FG-84M	AC
	9JDY315041000	FL-721	AD
	9JDY315141000	G-313Y	AE
	9JDY315151000	GP-40	AF

NOTE: Applying positions AA, AB, AC, AD, AE and AF for the grease are displayed for this section. Check if the correct grease is applied for each position.

CHASSIS EXPLODED VIEW (BOTTOM VIEW)



CLASS	PART NO.	PART NAME	MARK
GREASE	9JDY315061000	G-555G	AA
	9JDY315071000	MG-33	AB
	9JDY31D011000	FG-84M	AC
	9JDY315041000	FL-721	AD
	9JDY315141000	G-313Y	AE
	9JDY315151000	GP-40	AF

NOTE: Applying positions AA, AB, AC, AD, AE and AF for the grease are displayed for this section. Check if the correct grease is applied for each position.

MECHANICAL REPLACEMENT PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	CODE
101	9JD7A7010125B	FRONT CABI ASSY	
101A	9JD701WPJ1361	CABINET,FRONT	
101B	9JD711WPD0687	PLATE,DISPLAY	
101C	9JD712WPQ0011	FLAP,DVD	
101D	9JD712WPQ0012	FLAP,VCR	
101E	9JD713WPA0371	GLASS,DVD	
101F	9JD713WPA0372	GLASS,VCR	
101G	9JD7230007990	SHEET,LED	
101H	9JD738WPB0065	BUTTON,POWER	
101I	9JD738WPB0066	BUTTON,VCR	
101J	9JD738WPB0067	BUTTON,DVD	
101K	9JD742WKA0003	SPRING,DVD-FLAP	
101L	9JD743WKA0042	SPRING,FLAP	
101M	9JD761WPA0375	HOLDER,DVD	
101N	9JD761WPA0376	HOLDER,DECK(L)	
101O	9JD800WFA0045	CUSHION,LEG	
101P	9JD8965TS1010	CUSHION 65TS10-10	10x10x25
102	9JD7G7610014A	BOTTOM CABI ASSY	
102A	9JD702WSA0259	PLATE,BOTTOM	
102B	9JD761WSA0276	ANGLE,CENTER	
103	9JD752WSA0484	SHIELD,DECK	
104	9JD702WSB0113	CABINET,TOP	
105	9JD8965TS202A	CUSHION 65TS20-20	20x15x12
106	9JD701WPA1363	HOLDER,DECK	
107	9JD701WPA1364	HOLDER,DECK	
108	9JD752WSA0230	SHIELD,CASE HEAD AMP	
109	9JD753WUAA006	SPRING,EARTH HEAD AMP	
110	9JD85OP700038	HOLDER,END SENSOR	
111	9JD7225270022	SHEET,RATING	
112	9JD761WSA0104	SHIELD,21PIN	
113	9JD752WSA0275	COVER,AC HEAD	
114	9JD752WSA0290	SHIELD,COMPO	
115	9JD752WSA0391	SHIELD,MPEG	
116	9JD752WUA0014	SHIELD,JACK	
117	9JD761WSA0228	ANGLE,DVD(L)	
118	9JD761WSA0229	ANGLE,DVD(R)	
119	9JD761WPA0384	HOLDER,TOP	
120	9JD753WUA0080	SPRING,EARTH-TOP	
121	9JD8965TS1015	CUSHION 65TS10-5	10x5x15
122	9JD8965TS1017	CUSHION 65TS10-10	17.5x20x14
123	9JD761WPA0408	HOLDER,BOTTOM	
124	9JD7220001206	SHEET,JACK	
125	9JD7235270008	POP LABEL	
126	9JD800WFA0075	CUSHION,TOP	
201	9JD8109130B7U	SCREW,TAP TITE(B) R PAN	3x27
202	9JD810923070U	SCREW,TAP TITE(B) R BIND	3x7
203	9JD8109I30A0U	SCREW,TAP TITE(B) WH7	3x10
204	9JD810923080U	SCREW,TAP TITE(B) BIND	3x8
205	9JD8109K3060U	SCREW,TAP TITE(B) BIND(3D)	3x6
206	9JD810723040U	SCREW,TAP TITE(S) BIND	3x4
207	9JD8110E2680U	SCREW,TAP TITE(P) WH10	M2.6x8
208	9JD811022680U	SCREW,TAP TITE(P) BIND	2.6x8
209	9JD810223060U	SCREW,BIND	
210	9JD8110226A0U	SCREW,TAP TITE(P) BIND	2.6x10
211	9JD810923053U	SCREW,TAP TITE(B) R BIND	3x5.3
---	9JD791UHAA001	GIFT SHEET	
---	9JD792UHA0215	PACKAGE,FRONT	
---	9JD792UHA0216	PACKAGE,BACK	
---	9JD793UCD1235	GIFT BOX	
---	9JD795UCA0021	PAD,DVD/VR	155x250MM
---	9JDA2H008T975	INSTRUCTION BOOK KIT	
---	9JDJ2H00829A	INFORMATION SHEET	
---	9JDJ2H00831A	INSTRUCTION BOOK(G/E/SW)	
---	9JDJB5XD200	POLYBAG,INSTRUCTION(RED CAUTION)	

CHASSIS REPLACEMENT PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	CODE
300	9JDA2H301T420A	DECK ASSY	A2H301T420A
301	9JD85OA400245	PINCH ROLLER BLOCK VA2	
302	9JD85OP900759	LEVER,FLAP(S)	
303	9JD85OP200290	BELT,CAPSTAN (S)	
304	9JD85OP600581	WORM	
305	9JD85OP500091	BASE,AC HEAD	
306	9JD85OP800324	SPRING,AC HEAD	
307	9JD85OA000529	MAIN CHASSIS ASS'Y(S)	
308	9JD85OA200089	CLUTCH ASS'Y	
309	9JD85OA200092	ARM IDLER ASS'Y	
310	9JD85OA300068	LOADING ARM S UNIT	
311	9JD85OA300070	LOADING ARM T UNIT	
312	9JD85OA400223	INCLINED BASE T UINT 3S	
313	9JD85OA400249	P5 ARM ASS'Y 2	
314	9JD85OA400248	TENSION ARM ASS'Y 2	
315	9JD85OA400231	INCLINED BASE S UNIT	
316	9JD85OA900236	CASS HOLDER ASS'Y(S)	
317	9JD85OP900745	CASS,OPENER	
318	9JD85OP700035	REFLECTOR,LED	
319	9JD85OP900756	BRACKET,TOP(S)	
320	9JD85OP400554	HOLDER,CAPSTAN	
321	9JD85OA900233	LINK UNIT	
322	9JD85OP000496	POST,CASS GUIDE	
323	9JD85OP200316	REEL,S (S)	
324	9JD85OP200317	REEL,T (S)	
325	9JD85OP200308	GEAR,IDLER	
326	9JD85OP200311	GEAR,CLUTCH	
327	9JD85OP200312	GEAR,COUPLING	
328	9JD85OP200313	LEVER,CLUTCH	
329	9JD85OP300194	GEAR,MAIN LOADING	
330	9JD85OP400490	LEVER,TENSION	
331	9JD85OP400492	HOLDER,TENSION	
332	9JD85OP400520	CAP.P4	
333	9JD85OP400542	BAND,TENSION	
334	9JD85OP400533	CONNECT,TENSION	
335	9JD85OP600573	ARM,BRAKE T	
336	9JD85OP600584	BAND,BRAKE T	
337	9JD85OP600577	CAM,PINCH ROLLER	
338	9JD85OP600578	CAM,MAIN	
339	9JD85OP600585	ROD,MAIN	
340	9JD85OP600582	GEAR,JOINT	
341	9JD85OP800322	SPRING,TENSION	
342	9JD85OP800360	SPRING,BRAKE T	
343	9JD85OP800355	SPRING,COUPLING	
344	9JD85OP800356	SPRING,RING	
345	9JD85OP900754	LEVER,LINK	
501	9JD810722680U	SCREW,TAP TITE(S) BIND	M2.6x8
502	9JD83ETW3000U	E-RING	3.0
503	9JD810722640U	SCREW,TAP TITE(S) BIND	M2.6x4
504	9JD810212060U	SCREW,PAN	M2x6
505	9JD810912660U	SCREW,TAP TITE(B) PAN	M2.6x6
506	9JD810A13040U	SCREW/WASHER(A)	M3x4
507	9JD810A12650U	SCREW/WASHER(A)	M2.6x5
508	9JD82Q264713N	POLYSLIDER WASHER	2.6x4.7xT0.13
509	9JD82P184505N	POLYSLIDER WASHER(CUT)	1.8x4.5xT0.5
510	9JD810722660U	SCREW,TAP TITE(S) BIND	2.6x6
CD1501	9JD122H071603	CORD JUMPER	SMCD-7X151
CD1502	9JD122Y021902	CORD JUMPER	2Y021902
H5001	9JD1523Q91003	HEAD (AUDIO CONTROL)	VTR-1X2RPE22-756
H5002	9JD1543Q02014	HEAD (FULL ERASE)	VTR-1X2ERS11-154
⚠ M101	9JD1596S98002	MOTOR,LOADING	MDB2B66B
⚠ M2001	9JD1510S98045	CAPSTAN DD UNIT	F2QVB58C
⚠ M2003	9JD1589S11025	MICRO MOTOR	I20AL34K
⚠ UN4001	9JDA2H301T500	CYLINDER UNIT ASS'Y	A2H301T500

ELECTRICAL REPLACEMENT PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	CODE
		VCR PCB ASS'Y	
		*** PCB ***	
PCB010	9JDA2H008T010B	VCR PCB ASS'Y	DME042A
		*** RESISTORS ***	
R1701	9JDR3X28B1R5J	R,METAL OXIDE	1.5 OHM 3W
R1725	9JDR65584101J	R,FUSE	100 OHM 1/4W
R8079	9JDR002T4105J	RC	1M OHM 1/4W
		*** CAPACITORS ***	
C8132	9JDE00NU0470M	CE	47 UF 6.3V
		*** DIODES ***	
D101	9JDD1VT001330	DIODE,SILICON	1SS133T-77
D651	9JDD97U06R21B	DIODE,ZENER	MTZJ6.2B T-77
D652	9JD0021E3Q030	LED	LTL-1CHAE-002A
D657	9JDD97U06R21B	DIODE,ZENER	MTZJ6.2B T-77
D659	9JDD97U06R21B	DIODE,ZENER	MTZJ6.2B T-77
D1701	9JDD2WXN40050	DIODE SILICON	1N4005-EIC
D1702	9JDD2WXN40050	DIODE SILICON	1N4005-EIC
D1705	9JDD97U09R11B	DIODE,ZENER	MTZJ9.1B T-77
D1707	9JDD97U05R11B	DIODE,ZENER	MTZJ5.1B T-77
D1708	9JDD97U09R11B	DIODE,ZENER	MTZJ9.1B T-77
D1709	9JDD1VT001330	DIODE,SILICON	1SS133T-77
D3001	9JD0010E00330	INFRARED LED	LTE-3271T-012A-O
D3007	9JDD1VT001330	DIODE,SILICON	1SS133T-77
D3009	9JDD1VT001330	DIODE,SILICON	1SS133T-77
D8001	9JDD97U06R81B	DIODE,ZENER	MTZJ6.8B T-77
D8003	9JDD97U06R21B	DIODE,ZENER	MTZJ6.2B T-77
D8004	9JDD97U06R21B	DIODE,ZENER	MTZJ6.2B T-77
D8006	9JDD97U06R81B	DIODE,ZENER	MTZJ6.8B T-77
D8007	9JDD97U06R81B	DIODE,ZENER	MTZJ6.8B T-77
D8008	9JDD97U06R81B	DIODE,ZENER	MTZJ6.8B T-77
D8009	9JDD97U06R21B	DIODE,ZENER	MTZJ6.2B T-77
D8010	9JDD97U06R21B	DIODE,ZENER	MTZJ6.2B T-77
D8011	9JDD1VT001330	DIODE,SILICON	1SS133T-77
D8012	9JDD1VT001330	DIODE,SILICON	1SS133T-77
		*** ICS ***	
IC101	9JDI04F38225F	IC	HA118225F
IC651	9JDIF4K063150	IC	PT6315
IC701	9JDI03F7646SM	IC	LA72646SM-MPB
IC801	9JDI19FF34170	IC	MSP3417G-QG-B8
⚠ IC1701	9JDI07F90WTP0	IC	BA00BC0WT-V5
⚠ IC1702	9JDI0CJ9AILP0	IC	TL431AILP
⚠ IC1704	9JDI1KA98R12A	IC	KIA78R12API
⚠ IC1705	9JDI1KA98R12A	IC	KIA78R12API
⚠ IC1706	9JDI07F90WTP0	IC	BA00BC0WT-V5
IC3001	9JDI54F50158A	IC	OEC0158A
IC3003	9JDIE2F031020	IC	XC61CN3102SR
IC3099	9JDS2H008TE01	MEMORY DATA	BR24L08F-WE2
IC8001	9JDI03F0026A0	IC	LA73026AV-TLM-E
IC8002	9JDI0UF015010	IC	MM1501XNRE
IC8003	9JDI0UF015060	IC	MM1506XNRE
IC8004	9JDI0UF015060	IC	MM1506XNRE
IC8005	9JDI0UF015060	IC	MM1506XNRE
IC8006	9JDI0QF02534V	IC	NJM2534V(TE2)
IC8007	9JDI0QF02534V	IC	NJM2534V(TE2)
IC8008	9JDI0UF015060	IC	MM1506XNRE
IC8009	9JDI0UF015010	IC	MM1501XNRE
IC8010	9JDI0UF015010	IC	MM1501XNRE
IC8012	9JDI0UF015060	IC	MM1506XNRE
IC8013	9JDI0UF015060	IC	MM1506XNRE
IC8014	9JDI0UF015010	IC	MM1501XNRE
		*** TRANSISTORS ***	
Q101	9JDTCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q102	9JDTCAT032034	TRANSISTOR, SILICON	KTC3203_Y-AT
Q103	9JDTPYJC05001	COMPOUND TRANSISTOR	DTA124EKAT146
Q104	9JDTCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q105	9JDTCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q108	9JDTAAA1504SY	TRANSISTOR SILICON	KTA1504S_Y_RTK
Q301	9JDTAAA1504SY	TRANSISTOR SILICON	KTA1504S_Y_RTK

REF. NO.	PART NO.	DESCRIPTION	CODE
		*** TRANSISTORS ***	
Q302	9JDTAAA1504SY	TRANSISTOR SILICON	KTA1504S_Y_RTK
Q303	9JDTCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q651	9JDTCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q652	9JDTCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q701	9JDTNYJC05001	COMPOUND TRANSISTOR	DTC124EKAT146
Q702	9JDTPYJA05001	COMPOUND TRANSISTOR	DTA143EKAT146
Q703	9JDTCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q704	9JDTCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
⚠ Q1701	9JDTDA0016910	TRANSISTOR SILICON	KTD1691Y
⚠ Q1703	9JDTCAT03209Y	TRANSISTOR SILICON	KTC3209_Y-AT
⚠ Q1704	9JDTAAT01281Y	TRANSISTOR SILICON	KTA1281_Y
Q1707	9JDTNYJC05001	COMPOUND TRANSISTOR	DTC124EKAT146
⚠ Q1708	9JDTCAT03209Y	TRANSISTOR SILICON	KTC3209_Y-AT
⚠ Q1709	9JDTCAT032034	TRANSISTOR, SILICON	KTC3203_Y-AT
Q1710	9JDTPYJC05001	COMPOUND TRANSISTOR	DTA124EKAT146
⚠ Q1711	9JDTAAT01281Y	TRANSISTOR SILICON	KTA1281_Y
Q1712	9JDTNYJC05001	COMPOUND TRANSISTOR	DTC124EKAT146
Q1713	9JDTPYJC05001	COMPOUND TRANSISTOR	DTA124EKAT146
Q1714	9JDTPYJC05001	COMPOUND TRANSISTOR	DTA124EKAT146
Q3001	9JD0002700690	PHOTO COUPLER	RPI-303
Q3002	9JD0002700690	PHOTO COUPLER	RPI-303
Q3003	9JDTCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q3004	9JD0002700680	PHOTO COUPLER	RPI-352C40N
Q3005	9JD0002700680	PHOTO COUPLER	RPI-352C40N
Q3006	9JD0000M00390	PHOTO TRANSISTOR	ST-304L
Q3007	9JDTPYJA05001	COMPOUND TRANSISTOR	DTA143EKAT146
Q3008	9JD0000M00390	PHOTO TRANSISTOR	ST-304L
Q8004	9JDTNYJC05001	COMPOUND TRANSISTOR	DTC124EKAT146
Q8005	9JDTNYJC05001	COMPOUND TRANSISTOR	DTC124EKAT146
Q8008	9JDTAAA1504SY	TRANSISTOR SILICON	KTA1504S_Y_RTK
Q8011	9JDTCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q8012	9JDTNYJC05001	COMPOUND TRANSISTOR	DTC124EKAT146
Q8013	9JDTCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q8017	9JDTAAA1504SY	TRANSISTOR SILICON	KTA1504S_Y_RTK
Q8301	9JDT27T030180	FET	2SK3018T106
Q8302	9JDT27T030180	FET	2SK3018T106
Q8303	9JDTCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q8304	9JDT27T030180	FET	2SK3018T106
Q8305	9JDTCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
Q8306	9JDT27T030180	FET	2SK3018T106
Q8307	9JDT27T030180	FET	2SK3018T106
Q8310	9JDTPYJC05001	COMPOUND TRANSISTOR	DTA124EKAT146
Q8312	9JDTPYJC05001	COMPOUND TRANSISTOR	DTA124EKAT146
		*** COILS ***	
B651	9JD024AC5102F	CORE,BEADS	BLM18BD102SN1D
B652	9JD024AC5102F	CORE,BEADS	BLM18BD102SN1D
B653	9JD024AC5102F	CORE,BEADS	BLM18BD102SN1D
B654	9JD024AC5102F	CORE,BEADS	BLM18BD102SN1D
B655	9JD024AC5102F	CORE,BEADS	BLM18BD102SN1D
B8001	9JD024AC5102F	CORE,BEADS	BLM18BD102SN1D
L101	9JD02167F101J	COIL	100 UH
L102	9JD031616003R	COIL,BIAS OSC	1616003
L103	9JD02167F101J	COIL	100 UH
L104	9JD02167F101J	COIL	100 UH
L106	9JD021LA6820K	COIL LAP02TA820K	82 UH
L107	9JD021LA6820K	COIL LAP02TA820K	82 UH
L108	9JD02167F220J	COIL	22 UH
L109	9JD021LA6120K	COIL LAP02TA120K	12 UH
L110	9JD021LA6390J	COIL LAP02TA390J	39 UH
L111	9JD02167F101J	COIL	100 UH
L112	9JD02167F220J	COIL	22 UH
L113	9JD021LA61R0M	COIL LAP02TA1R0M	1 UH
L114	9JD021LA61R0M	COIL LAP02TA1R0M	1 UH
L115	9JD021LA61R0M	COIL LAP02TA1R0M	1 UH
L301	9JD02167F101J	COIL	100 UH
L651	9JD021LA6101J	COIL LAP02TA101J	100 UH
L701	9JD02167F220J	COIL	22 UH
L702	9JD02167F220J	COIL	22 UH
L703	9JD02167F220J	COIL	22 UH
L801	9JD02167F220J	COIL	22 UH
L802	9JD02167F220J	COIL	22 UH
L803	9JD02167F220J	COIL	22 UH
L1702	9JD02167F470J	COIL	47 UH
L1703	9JD02167E220K	COIL TSL0808RA-220K1	22 UH
L3002	9JD02167F220J	COIL	22 UH
L3003	9JD021LA6120J	COIL LAP02TA120J	12 UH
L8001	9JD02167F220J	COIL	22 UH

REF. NO.	PART NO.	DESCRIPTION	CODE
		*** COILS ***	
L8002	9JD02167F220J	COIL	22 UH
L8003	9JD02167F101J	COIL	100 UH
L8005	9JD02167F100J	COIL	10 UH
L8006	9JD021LA61R0M	COIL LAP02TA1R0M	1 UH
L8007	9JD021LA6100J	COIL LAP02TA100J	10 UH
L8008	9JD02167F101J	COIL	100 UH
L8009	9JD02167F101J	COIL	100 UH
L8010	9JD02167F101J	COIL	100 UH
L8011	9JD02167F101J	COIL	100 UH
L8012	9JD02167F101J	COIL	100 UH
L8013	9JD02167F101J	COIL	100 UH
L8014	9JD02167F101J	COIL	100 UH
L8302	9JD02167F101J	COIL	100 UH
		*** JACKS ***	
J651	9JD060J421039	RCA JACK	MSP-281V31-A
J652	9JD060J401098	RCA JACK	MSP-281V40-B
J653	9JD060J401099	RCA JACK	MSP-281V42-B
J654	9JD063D700010	JACK	MDC-012V1-A_LF
J8001	9JD063D000077	SOCKET,21PIN	MRC-021V-27_PC
J8002	9JD060J411033	RCA JACK	MSP-213V1-732_NI_LF
J8003	9JD060J411032	RCA JACK	MSP-213V1-652_NI_LF
		*** SWITCHES ***	
SW651	9JD0504101T34	SWITCH,TACT	EVQ21505R
SW653	9JD0504101T34	SWITCH,TACT	EVQ21505R
SW3001	9JD0508S11001	SWITCH (LEAF)	LSA-1144EAU
		*** CONNECTORS ***	
CP101	9JD0697290620	CONNECTOR PCB SIDE	TOC-C09X-A1
CP102	9JD069J760599	CONNECTOR PCB SIDE	IMSA-9604S-06C
CP103	9JD067U002019	WIRE HOLDER	B2013H02-2P
CP651	9JD069S250639	CONNECTOR PCB SIDE	A2001WR2-5P
CP654	9JD069S220629	CONNECTOR PCB SIDE	A2001WV2-2P
CP1701	9JD069R2G0589	CONNECTOR PCB SIDE	52147-1610
CP1703	9JD069S2A0629	CONNECTOR PCB SIDE	A2001WV2-10P
CP3001	9JD06972C0010	CONNECTOR PCB SIDE	TMC-J12P-B2
CP8001	9JD067U002019	WIRE HOLDER	B2013H02-2P
CP8301	9JD069JVK0200	CONNECTOR PCB SIDE	IMSA-9615S-20C-PP-A
CP8302	9JD069JVK0200	CONNECTOR PCB SIDE	IMSA-9615S-20C-PP-A
CP8303	9JD069JVF0200	CONNECTOR PCB SIDE	IMSA-9615S-15C-PP-A
CP8304	9JD067U002019	WIRE HOLDER	B2013H02-2P
		*** CRYSTAL & CERAMIC OSCILLATORS ***	
X101	9JD100DT4R410	CRYSTAL	AT-49
X801	9JD100CT01803	CRYSTAL	HC-49/U-S
X3001	9JD100CT01002	CRYSTAL	HC-49/U-S
X3002	9JD100DA32R01	CRYSTAL	DT-26
X3003	9JD100CT01701	CRYSTAL	HC-49/U-S
		*** TUNER ***	
⚠ TU301	9JD0162K01037	RF UNIT	TCMK0601PD20D1_(P)
		*** OTHERS ***	
CD103	9JDW9L6012042	FLAT CABLE	AWM2468 AWG26 2C BLACK 120MM
CD8001	9JDW9L6018038	FLAT CABLE	AWM2468 AWG26 2C BLACK 180MM
⚠ ICP1702	9JD0835C01603	MICRO FUSE	20N_1600FS
OS651	9JD077Q037009	REMOTE RECEIVER	PIC-37043LO-H
V651	9JD096F90R408	TUBE FLUORESCENT DIS	PLAY HNV-09SS62
		POWER PCB ASS'Y	
		*** PCB ***	
PCB240	9JDA2H008T240B	POWER PCB ASS'Y	DPE005A
		*** RESISTORS ***	
⚠ R502	9JDR3X181R82J	R,METAL OXIDE	0.82 OHM 1W
⚠ R504	9JDR3X181821J	R,METAL OXIDE	820 OHM 1W
R505	9JDR012U2474J	RC ERD-S1VJ474T	470K OHM 1/2W

REF. NO.	PART NO.	DESCRIPTION	CODE
		*** RESISTORS ***	
⚠ R516	9JDR63881R22J	R,FUSE RF1CL15AR22J	0.22 OHM 1W
⚠ R531	9JDR65584220J	R,FUSE RNF25R220J	22 OHM 1/4W
⚠ R532	9JDR3X181121J	R,METAL OXIDE	120 OHM 1W
⚠ R533	9JDR655842R7J	R,FUSE RNF25R2R7J	2.7 OHM 1/4W
⚠ R538	9JDR65584150J	R,FUSE RNF25R150J	15 OHM 1/4W
⚠ R539	9JDR3X28A010J	R,METAL OXIDE	1 OHM 2W
		*** CAPACITORS ***	
C501	9JDE61FF3102D	CE EEUFM1E102E	1000 UF 25V
⚠ C502	9JDP2122B334M	CMP	0.33 UF 275V ECQUL
⚠ C504	9JDP2122B104M	CMP	0.1 UF 275V ECQUL
⚠ C505	9JDE02LU3221M	CE	220 UF 25V
⚠ C507	9JDE02LT5331M	CE 50YK330MTA	330 UF 50V
C511	9JDE62PFH181M	CE 400AXW180MKC	180 UF 400V
⚠ C516	9JDCD39E0ML3M	CC DE1E3KX332MB5BA0	0.0033UF 250V
⚠ C517	9JDE02LU0221M	CE	220 UF 6.3V
C518	9JDE61FF1222D	CE EEUFM1A222E	2200 UF 10V
C519	9JDE61FF1222D	CE EEUFM1A222E	2200 UF 10V
⚠ C521	9JDE50HU5100M	CE	10 UF 50V
⚠ C523	9JDE02LU3221M	CE	220 UF 25V
C525	9JDC03L0R7B3K	CC	0.0012UF 2KV R
⚠ C527	9JDE02LU2101M	CE	100 UF 16V
⚠ C542	9JDC0JBB0712K	CC HS80VJYB101K	100 PF 2KV B
⚠ C543	9JDC0JBB0712K	CC HS80VJYB101K	100 PF 2KV B
		*** DIODES ***	
⚠ D502	9JDD2WTRM11C0	DIODE SILICON	RM11C-EIC
⚠ D503	9JDD2WTRM11C0	DIODE SILICON	RM11C-EIC
D504	9JDD1VT001330	DIODE,SILICON	1SS133T-77
⚠ D505	9JDD2WTRM11C0	DIODE SILICON	RM11C-EIC
⚠ D506	9JDD2WTRM11C0	DIODE SILICON	RM11C-EIC
⚠ D507	9JDD28F31DQ09	DIODE SCHOTTKY	31DQ09-FC
⚠ D508	9JDD23TGP15J0	DIODE SILICON	RGP15J-G23
⚠ D510	9JDD97U02201B	DIODE ZENER	MTZJ22B T-77
⚠ D512	9JDD2LKB340F0	DIODE SCHOTTKY	SB340FL-6737
D514	9JDD1VT001330	DIODE,SILICON	1SS133T-77
⚠ D515	9JDD27A85T400	DIODE SCHOTTKY	RB085T-40
D516	9JDD1VT001330	DIODE,SILICON	1SS133T-77
D517	9JDD1VT001330	DIODE,SILICON	1SS133T-77
⚠ D518	9JDD1VT001330	DIODE,SILICON	1SS133T-77
D519	9JDD97U02701B	DIODE,ZENER	MTZJ27B T-77
D520	9JDD1VT001330	DIODE,SILICON	1SS133T-77
⚠ D521	9JDD28T0ERB20	DIODE RECTIFIER	10ERB20-TA1B2
⚠ D522	9JDD28T0ERB20	DIODE RECTIFIER	10ERB20-TA1B2
⚠ D523	9JDD97U03301B	DIODE,ZENER	MTZJ33B T-77
D524	9JDD1VT001330	DIODE,SILICON	1SS133T-77
⚠ D525	9JDD28T21DQN9	DIODE SCHOTTKY	21DQ09N-TA2B1
D529	9JDD1VT001330	DIODE,SILICON	1SS133T-77
D530	9JDD28T0ERB60	DIODE RECTIFIER	10ERB60-TA1B2
D531	9JDD97U01001B	DIODE,ZENER	MTZJ10B T-77
D532	9JDD28TEQS040	DIODE,SCHOTTKY	11EQS04TA1B2
D533	9JDD1VT001330	DIODE,SILICON	1SS133T-77
D534	9JDD97U02R41B	DIODE,ZENER	MTZJ2.4B T-77
D535	9JDD97U05R61B	DIODE,ZENER	MTZJ5.6B T-77
D536	9JDD97U05R61B	DIODE,ZENER	MTZJ5.6B T-77
D538	9JDD1VT001330	DIODE,SILICON	1SS133T-77
		*** ICS ***	
⚠ IC501	9JDI1KJ9A431A	IC	KIA431A-AT
⚠ IC502	9JDI1KA78R120	IC	KIA278R12PI
⚠ IC503	9JD000220002W	PHOTO COUPLER	PS2561AL1-1-V(W)
		*** TRANSISTORS ***	
⚠ Q501	9JDT410K26470	FET	2SK2647-01MR
⚠ Q502	9JDTCAT032034	TRANSISTOR, SILICON	KTC3203_Y-AT
Q503	9JDTCATC31980	TRANSISTOR,SILICON	KTC3198-AT(Y,GR)
Q504	9JDTAAT012714	TRANSISTOR, SILICON	KTA1271_Y-AT
⚠ Q505	9JDTDA0016910	TRANSISTOR SILICON	KTD1691Y
⚠ Q506	9JDTAAT012714	TRANSISTOR, SILICON	KTA1271_Y-AT
		*** COILS ***	
⚠ L501	9JD029T000108	COIL,LINE FILTER	0R5A393F24
L502	9JD02AHB0A0A4	CORE FERRITE	W5T_20X10X10A
L503	9JD02167E100K	COIL TSL0808RA-100K2	R6-1 10 UH
L504	9JD02167F100J	COIL	10 UH

REF. NO.	PART NO.	DESCRIPTION	CODE
		*** COILS ***	
L506	9JD02167E220K	COIL TSL0808RA-220K1	22 UH
L507	9JD02167E100K	COIL TSL0808RA-100K2	10 UH
		*** TRANSFORMERS ***	
⚠ T501	9JD0481291224	TRANSFORMER,SWITCHING	81291224
		*** CONNECTORS ***	
⚠ CP502	9JD067U016019	WIRE HOLDER	B2013H02-16P
⚠ CP504	9JD069V140339	CONNECTOR PCB SIDE	A2544WV2-4P
CP506	9JD069S220629	CONNECTOR PCB SIDE	A2001WV2-2P
		*** FUSES ***	
⚠ F501	9JD080NT04004	FUSE	50T040H
FH501	9JD06710T0009	HOLDER,FUSE	EYF-52BCY
FH502	9JD06710T0009	HOLDER,FUSE	EYF-52BCY
		*** AC CORD ***	
⚠ CD501	9JD1206459806	CORD AC BUSH	6459806
		*** OTHERS ***	
CD502	9JDWPL6028038	FLAT CABLE	AWM2468 AWG26 16C BLACK 280MM
EL2402	9JD124120301A	EYE LET	XRY20X30BD
⚠ ICP501	9JD0835C01003	MICRO FUSE	20N_1000FS
		OPERATION PCB ASS'Y	
		*** PCB ***	
PCB270	9JDA2H008T270B	OPERATION PCB ASS'Y	DEE055A
		*** DIODES ***	
D681	9JD0021E5Q210	LED	LTL-1CHGE-002A
		*** SWITCHES ***	
SW681	9JD0504R01T38	SWITCH TACT	EVQ11L05R
SW682	9JD0504R01T38	SWITCH TACT	EVQ11L05R
SW683	9JD0504R01T38	SWITCH TACT	EVQ11L05R
SW684	9JD0504R01T38	SWITCH TACT	EVQ11L05R
SW685	9JD0504R01T38	SWITCH TACT	EVQ11L05R
SW686	9JD0504R01T38	SWITCH TACT	EVQ11L05R
SW687	9JD0504R01T38	SWITCH TACT	EVQ11L05R
SW688	9JD0504R01T38	SWITCH TACT	EVQ11L05R
		*** CONNECTORS ***	
⚠ CP681	9JD069S250639	CONNECTOR PCB SIDE	A2001WR2-5P
		OPERATION 2 PCB ASS'Y	
		*** PCB ***	
PCB280	9JDA2H008T280B	OPERATION 2 PCB ASS'Y	DEE056A
		*** SWITCHES ***	
SW691	9JD0504R01T38	SWITCH TACT	EVQ11L05R
		*** OTHERS ***	
CD691	9JD06C3220901	CORD CONNECTOR	C3220901
		DVD/HD MPEG PCB ASS'Y	
		*** PCB ***	
PCBB10	9JDA2H008TB10B	DVD/HD MPEG PCB ASS'Y	DME047A
		*** DIODES ***	
D7301	9JDDD7R0S3550	DIODE SILICON	1SS355 TE-17
D7302	9JDDE7RB4R72B	DIODE ZENER	UDZS4.7B TE-17

REF. NO.	PART NO.	DESCRIPTION	CODE
		*** ICS ***	
IC4001	9JDICQM0BGCG0	IC	ZR36750BGCG-V
IC4002	9JDS2H008TE02	MEMORY DATA	BR24L16FJ-WE2
IC4003	9JDI97F052290	IC	BD5229G-TR
IC4004	9JDIF6J08M167	IC	MT48LC8M16A2P-7E
IC4005	9JDIF6J08M167	IC	MT48LC8M16A2P-7E
IC4006	9JDS2H008TF01	MEMORY DATA	M5M29KT331AVP
IC4007	9JDIF6J08M167	IC	MT48LC8M16A2P-7E
IC4008	9JDIF6J08M167	IC	MT48LC8M16A2P-7E
IC4009	9JDICQK0PQCG0	IC	ZR35100PQCG
IC4010	9JDI5CJ0G1250	IC	SN74LVC1G125DCKR
IC7301	9JDI17F017530	IC	PCM1753DBQR
IC7302	9JDI0UF015010	IC	MM1501XNRE
IC7303	9JDIFJJ0775S0	IC	WM8775SEDS/R
IC7304	9JDI07F045600	IC	BA4560F-E2
		*** TRANSISTORS ***	
Q7301	9JDTCAA3875SY	TRANSISTOR SILICON	KTC3875S_Y_RTK
		*** COILS ***	
B4001	9JD0246C51024	CORE,BEADS	MMZ1608R102CT
B4002	9JD0246C51024	CORE,BEADS	MMZ1608R102CT
B4003	9JD0246C51024	CORE,BEADS	MMZ1608R102CT
B4004	9JD0246C51024	CORE,BEADS	MMZ1608R102CT
B4005	9JD0246C51024	CORE,BEADS	MMZ1608R102CT
B4006	9JD0246C51024	CORE,BEADS	MMZ1608R102CT
B4007	9JD0246C51024	CORE,BEADS	MMZ1608R102CT
B7302	9JD0246C51024	CORE,BEADS	MMZ1608R102CT
B7303	9JD0246C51024	CORE,BEADS	MMZ1608R102CT
B7304	9JD024HC36001	CORE,BEADS	HCB2012K-600T25
B7305	9JD024HC36001	CORE,BEADS	HCB2012K-600T25
B7306	9JD024HC36001	CORE,BEADS	HCB2012K-600T25
B7307	9JD024HC36001	CORE,BEADS	HCB2012K-600T25
B7308	9JD0246C51024	CORE,BEADS	MMZ1608R102CT
B7309	9JD0246C51024	CORE,BEADS	MMZ1608R102CT
L7301	9JD0216SD1R0J	COIL NLV25T-1R0J-PF	1 UH
L7302	9JD0216SD1R0J	COIL NLV25T-1R0J-PF	1 UH
L7303	9JD0216SD1R0J	COIL NLV25T-1R0J-PF	1 UH
L7304	9JD0216SD1R0J	COIL NLV25T-1R0J-PF	1 UH
L7305	9JD0216SD1R0J	COIL NLV25T-1R0J-PF	1 UH
L7306	9JD0216SD1R0J	COIL NLV25T-1R0J-PF	1 UH
L7307	9JD0216SD6R8J	COIL NLV25T-6R8J-PF	6.8 UH
L7308	9JD0216SD6R8J	COIL NLV25T-6R8J-PF	6.8 UH
L7309	9JD0216SD6R8J	COIL NLV25T-6R8J-PF	6.8 UH
		*** CONNECTORS ***	
CP4007	9JD069S270639	CONNECTOR PCB SIDE	A2001WR2-7P
CP7301	9JD069EVKT070	CONNECTOR PCB SIDE	04_6232_120_103_800+
CP7302	9JD069EVKT070	CONNECTOR PCB SIDE	04_6232_120_103_800+
CP7303	9JD069EVFT070	CONNECTOR PCB SIDE	04_6232_115_103_800+
CP7304	9JD069S2A0629	CONNECTOR PCB SIDE	A2001WV2-10P
		*** CRYSTAL & CERAMIC OSCILLATORS ***	
X4001	9JD100DT02712	CRYSTAL	DSO751SV
		*** NETWORKS ***	
NR4001	9JD110P4470M4	R,NETWORK	4D03WGJ0470T5E
NR4002	9JD110P4470M4	R,NETWORK	4D03WGJ0470T5E
NR4003	9JD110P4470M4	R,NETWORK	4D03WGJ0470T5E
NR4004	9JD110P4470M4	R,NETWORK	4D03WGJ0470T5E
NR4005	9JD110P4470M4	R,NETWORK	4D03WGJ0470T5E
NR4006	9JD110P4470M4	R,NETWORK	4D03WGJ0470T5E
NR4007	9JD110P4470M4	R,NETWORK	4D03WGJ0470T5E
NR4008	9JD110P4470M4	R,NETWORK	4D03WGJ0470T5E
		*** OTHERS ***	
CP4001	9JD06AXY04040	CONNECTOR PCB SIDE	40FY-SMT(SN)(LF)
		AND OTHERS	
		*** CONNECTORS ***	
CD102	9JD122F061501	CORD JUMPER	2F061501
CD7301	9JD122H0K1802	CORD JUMPER	2H0K1802

REF. NO.	PART NO.	DESCRIPTION	CODE
		*** CONNECTORS ***	
CD7302	9JD122H0K1802	CORD JUMPER	2H0K1802
CD7303	9JD122H0F1801	CORD JUMPER	2H0F1801
		*** OTHERS ***	
CD651	9JD06C3252804	CORD CONNECTOR	C3252804
CD4001	9JD12BH040121	CORD JUMPER	BH040121
CD7304	9JD06C32A3702	CORD CONNECTOR	C32A3702
⚠ M501	9JD1519456L05	FAN MOTOR	D06R-12SL_12(UX)
CD504	9JD06C3641204	CORD CONNECTOR	C3641204
⚠ DK4001	9JD169V00037A	DVD LOADER	DVR-R09OR Q
BT601	9JD141R004016	BATTERY,MANGAN	GR03X-SP2
CD602	9JD06CUVA5004	CABLE, 21 PIN	SM2651-001
CD6002	9JD06CPL02011	CABLE,PAL	TD-OR0157F
TM601	9JD076R0JJ070	TRANSMITTER	R56-0814

RESISTOR

RC.....	CARBON RESISTOR

CAPACITORS

CC.....	CERAMIC CAPACITOR
CE.....	ALUMI ELECTROLYTIC CAPACITOR
CP.....	POLYESTER CAPACITOR
CPP.....	POLYPROPYLENE CAPACITOR
CPL.....	PLASTIC CAPACITOR
CMP.....	METAL POLYESTER CAPACITOR
CMPL.....	METAL PLASTIC CAPACITOR
CMPP.....	METAL POLYPROPYLENE CAPACITOR

SHARP

Design and Production Information
Design :JAPAN
Production :UK

SHARP CORPORATION
AV Systems Group
Quality & Reliability Control Center
Yaita, Tochigi 329-2193, Japan